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<p>1 IN THE UNITED STATES DISTRICT COURT</p> <p>2 FOR THE WESTERN DISTRICT OF TENNESSEE</p> <p>3 EASTERN DIVISION</p> <p>4 -----</p> <p>5 NORTHEND INVESTORS, LLC,</p> <p>6 Plaintiff,</p> <p>7 vs. File No. 1:16-cv-01137 JDB-egb</p> <p>8 SOUTHERN TRUST INSURANCE COMPANY,</p> <p>9 Defendant.</p> <p>10 -----</p> <p>11</p> <p>12 DEPOSITION OF</p> <p>13 NEIL G. CARLSON</p> <p>14 Taken on April 7, 2017</p> <p>15 Commencing at 12:57 p.m.</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24 REPORTED BY: NANCY G. GISCH, RMR, CRR, CLR</p> <p>25</p>	<p>1 On Behalf of the Defendant:</p> <p>2 DAWN DAVIS CARSON, ESQ.</p> <p>3 dcarson@hickmanlaw.com</p> <p>4 Hickman Goza & Spragins, PLLC</p> <p>5 PO Box 16340</p> <p>6 Memphis, Tennessee 38186</p> <p>7 901-881-9840</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
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<p>1 The deposition of NEIL G. CARLSON,</p> <p>2 taken on April 7, 2017, commencing at</p> <p>3 approximately 12:57 p.m. taken at 24 East Fourth</p> <p>4 Street, St. Paul, Minnesota, before Nancy G.</p> <p>5 Gisch, Registered Merit Reporter, Certified</p> <p>6 Realtime Reporter, Certified LiveNote Reporter, a</p> <p>7 notary public in and for the State of Wisconsin.</p> <p>8</p> <p>9 A P P E A R A N C E S</p> <p>10</p> <p>11 On Behalf of the Plaintiff:</p> <p>12 CLINTON H. SCOTT, ESQ.</p> <p>13 cscott@gilbertfirm.com</p> <p>14 Gilbert, Russell, McWherter, Scott,</p> <p>15 Bobbitt, PLC</p> <p>16 101 North Highland Avenue</p> <p>17 Jackson, Tennessee 38301</p> <p>18 731-664-1340</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23 (Appearances continued on next page.)</p> <p>24</p> <p>25</p>	<p>1 I N D E X</p> <p>2 WITNESS: NEIL G. CARLSON PAGE</p> <p>3</p> <p>4 EXAMINATION BY MS. CARSON..... 5</p> <p>5 EXAMINATION BY MR. SCOTT..... 73</p> <p>6</p> <p>7 EXHIBITS MARKED AND REFERRED TO:</p> <p>8 EXHIBIT 1..... 5</p> <p>9 Notice to Take Deposition of</p> <p>10 Neil Carlson</p> <p>11 EXHIBIT 2..... 5</p> <p>12 1/29/17 letter to B. McWherter</p> <p>13</p> <p>14</p> <p>15</p> <p>16 (Original exhibits attached to original</p> <p>17 transcript; copies to counsel.)</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>

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<p>1 PROCEEDINGS</p> <p>2</p> <p>3 (Deposition Exhibits No. 1 and 2 marked.)</p> <p>4 NEIL G. CARLSON,</p> <p>5 duly sworn, was examined and testified as follows:</p> <p>6 EXAMINATION</p> <p>7 BY MS. CARSON:</p> <p>8 Q. Mr. Carlson, my name is Dawn Carson. I</p> <p>9 represent Southern Trust in this matter.</p> <p>10 Could you please state your name.</p> <p>11 A. Full name?</p> <p>12 Q. Yes.</p> <p>13 A. Neil Geoffrey Carlson.</p> <p>14 Q. Okay.</p> <p>15 A. And it's G-E-O-F-F-R-E-Y.</p> <p>16 Q. And, Mr. Carlson, kind of go through the</p> <p>17 deposition process.</p> <p>18 I know, from reading your documents,</p> <p>19 you've given several depositions before. Should</p> <p>20 be the same type of thing, maybe, except you</p> <p>21 don't have such a thick southern accent, like I</p> <p>22 do, in the other one.</p> <p>23 A. Okay.</p> <p>24 Q. But I'm going to be asking you questions.</p> <p>25 If you don't understand me, need me to repeat it</p>	<p>1 Q. Okay. And you have your report in front</p> <p>2 of you. This is not a pop quiz.</p> <p>3 A. Okay.</p> <p>4 Q. You're welcome to refer to that --</p> <p>5 A. Thank you.</p> <p>6 Q. -- uh-huh -- as we go through it.</p> <p>7 Now, I have today already made as</p> <p>8 Exhibit 1 the notice to take deposition that we</p> <p>9 have filed, where we had requested certain</p> <p>10 documentation. Plaintiff's counsel, I think, has</p> <p>11 provided us certain document -- documentation</p> <p>12 with exception to some objections pursuant to</p> <p>13 federal rules.</p> <p>14 The other document that I have provided</p> <p>15 and made an exhibit -- to the court reporter --</p> <p>16 is your report, which would be through -- 1</p> <p>17 through 4.</p> <p>18 And I understand that's your report that</p> <p>19 you've provided.</p> <p>20 A. Yes.</p> <p>21 Q. Okay. And your report is dated</p> <p>22 January the 29th, 2017, is that correct?</p> <p>23 A. Yes.</p> <p>24 Q. And then, after that, your report -- and</p> <p>25 I've just made it collective Exhibit 2 -- is your</p>
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<p>1 or rephrase it, please let me know. I am not an</p> <p>2 expert in soot or smoke, so I may say something</p> <p>3 kind of strange, but please just correct me and</p> <p>4 I'll try to fix that.</p> <p>5 Also, at any time during the process if</p> <p>6 you need to take a break -- you've got some</p> <p>7 water, but if I can -- if you need to do that,</p> <p>8 let me know. I'll talk to Mr. Scott and we'll</p> <p>9 make sure that you get a break.</p> <p>10 I would request that if you take a break,</p> <p>11 that you answer my question, unless there's some</p> <p>12 objection that -- that's made.</p> <p>13 If I ask a question, a yes-or-no answer --</p> <p>14 please say yes or no and don't shake your head or</p> <p>15 say uh-huh or huh-uh.</p> <p>16 Can we agree to that?</p> <p>17 A. Yes.</p> <p>18 Q. Okay. And, Mr. Carlson, we are here today</p> <p>19 for a -- a case involving a fire that occurred at</p> <p>20 15365 Highway 22 North, in Lexington, Tennessee.</p> <p>21 Does that sound correct?</p> <p>22 A. Yes.</p> <p>23 Q. And the date of loss is February the 4th,</p> <p>24 2015?</p> <p>25 A. Yes.</p>	<p>1 CV or resumé?</p> <p>2 A. Yes.</p> <p>3 Q. And that includes publications?</p> <p>4 A. At the end, yes.</p> <p>5 Q. Okay. And then, also --</p> <p>6 A. Oh, yeah. It -- I'm sorry, the deposition</p> <p>7 was at the end. The publications are included in</p> <p>8 res -- residence, slash, CV.</p> <p>9 Q. And then at the very end are depositions</p> <p>10 that have been taken of you or whether you have</p> <p>11 provided court testimony, is that correct?</p> <p>12 A. Yes. That -- yes.</p> <p>13 Q. Uh-huh.</p> <p>14 A. Back to 2005, that's correct, yes.</p> <p>15 Q. Are there any additional ones that -- that</p> <p>16 you have completed or have been taken since this</p> <p>17 was completed?</p> <p>18 A. No.</p> <p>19 Q. Okay. And we've marked that as Exhibit 2.</p> <p>20 Now, did you have a fee schedule?</p> <p>21 A. Yes. I did. I provided that to your</p> <p>22 person.</p> <p>23 MR. SCOTT: Okay. We emailed it</p> <p>24 as --</p> <p>25 MS. CARSON: It was part of an email.</p>

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1 MR. SCOTT: No. I mean, it was a --	1 deposition and trial testimony.
2 email of what he charges per hour. And --	2 A. This is the last page of the four-page --
3 MS. CARSON: Okay.	3 Q. The whole -- the whole document.
4 MR. SCOTT: -- it got forwarded on to	4 A. That --
5 you this week.	5 Q. This right here.
6 Q. (By Ms. Carson, continuing) And -- and,	6 A. Oh, this one, yes.
7 also, I can -- as far as today, I would pay you	7 Q. Uh-huh.
8 for your testimony time today. And I actually	8 Tell me what the Steve and Allison Gary
9 have a check, if you'll remind me at the end of	9 file is about.
10 it, or, if you want to, send me a bill. Either	10 A. Let's see. I want to make sure I got the
11 one is fine. And we can take care of that.	11 right one here. Okay.
12 Okay?	12 It was about a toilet.
13 A. Thank you.	13 Q. Okay. Was it dealing with a toilet
14 Q. Now, what did you do to prepare for the	14 leaking and mold?
15 deposition today?	15 A. Yes, it was.
16 A. I read through the -- all the -- I read	16 Q. And July of 2007, the Todd P. Johnson
17 through the materials that were listed on the	17 case. Do you remember what that was about?
18 basis of opinion that was listed here. And then	18 A. Yes. That one involved whether the
19 I had some additional materials that I emailed to	19 clients or the builder properly drained the house
20 your person, who you sent off -- I'm assuming --	20 that was located on it. And they had pictures of
21 to you. And I reviewed those materials.	21 standing water during the construction. And I
22 Q. Okay. I think some of the materials that	22 was called in because of some mold growth that
23 you were talking about were articles that you had	23 had occurred on the premise.
24 read, like, "Is soot the next asbestos?" and some	24 Q. Okay. Curtis G. Marks?
25 different articles like that.	25 A. That was a large residential building
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1 A. Yeah, yes, to familiarize -- rize myself	1 where there were a -- construction defects and
2 more with the current thinking on it -- the	2 mold growth that was associated with the
3 situation.	3 structure of the building. That there was some
4 Q. Okay. How many times have you provided	4 dispute whether the people that were selling the
5 testimony for soot-related cases?	5 Marks residence fully disclosed the nature of the
6 A. Soot-related cases -- this would be my	6 problems with the structural damage to the
7 first one.	7 building and the consequent mold growth.
8 Q. Okay. Have -- have you provided any	8 Q. Okay. And it looks like in August 2015
9 testimony concerning smoke-related cases?	9 you actually provided testimony for the defendant
10 A. Well, this would, again, be my first one.	10 as an expert witness, in Ralph Simon.
11 Q. Okay. And I know smoke and soot are	11 And what was that about?
12 different.	12 A. That was a client, Ralph Simon, who noted
13 You agree?	13 cladosporium growth on the chamber of a bed. And
14 A. As I understand, the way they are	14 he was claiming that the growth that was on the
15 defining -- and I'm going to go away from just a	15 chamber of the bed affected his health and that
16 yes/no.	16 it transported through the pieces of -- of the
17 And the way they are defining it is that	17 chamber material through the tick, to the top of
18 the smoke would be the particles that would	18 the bedding.
19 remain airborne and soot would be the particles	19 And I did testing on that, showing that,
20 that are deposited on surfaces.	20 in this particular case, there wasn't enough
21 Q. That's my understanding, too. And you	21 physical force from the person on the bed to
22 agree that soot is heavier than smoke?	22 physically move the mold spores through all the
23 A. I would say, yes.	23 layers of the bedding.
24 Q. Okay. All right. And if you want to look	24 Q. Okay. Now, these were cases, that we just
25 on the last page. And we'll go over your	25 went over, where you gave testimony at deposition

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1 and trial. Are there other cases where you've	1 soot damage and -- and char damage.
2 been retained as an expert?	2 And then chemical exposure monitoring.
3 A. It would be further back. And my memory	3 Redesign of -- of exhaust system and then setting
4 isn't as -- as -- as good on the ones that are	4 up abatement projects for where we've had water
5 previous to that. We had a -- a -- a -- would a	5 damage and there's mold and we have to design how
6 mediation be considered a deposition or not?	6 we're going to remediate it. And then, also,
7 Q. Well, no. Just -- I'm asking not so much	7 remediation and cleanup after water-damage events
8 about where you had to actually talk, but	8 from, for instance, a large flood.
9 basically that you were retained as an expert to	9 Q. Okay.
10 provide information, like you did in this case,	10 A. That's the general part of it.
11 but maybe they just didn't take your deposition.	11 Q. And at the University of Minnesota -- you
12 A. There -- would you consider workers' comp	12 don't teach there.
13 cases?	13 A. I am know an adjunct of -- instructor
14 Q. Sure.	14 there. So I teach build -- college building
15 A. Okay. There was a workers' comp case at	15 science class. I've taught in a -- recently in a
16 the University of Minnesota alleging exposure to	16 con -- con -- home construction or a -- they are
17 ethylene oxide. And the person was in an	17 doing forensic analysis of homes and how to
18 adjacent building. And they were attempting to	18 properly design them. I've also taught
19 say that the discharge from an ethylene oxide	19 ergonomics classes, mold remed -- mediation class
20 sterilizer got in and affected them.	20 for extension and ergonomics -- guest election
21 Q. Okay.	21 for ergonomics in human design and classes over
22 A. There was another one where it was an	22 in St. Paul. And then we've done mold
23 indoor air-related concern associated with an	23 conferences -- mold remediation conferences
24 occupant that was claiming that the environment	24 through the Minnesota extension department.
25 in her office was a source of aggravation for her	25 Q. Okay. And prior to -- I guess, let me ask
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1 health problems. And I was called to testify on	1 this. When did you begin your -- your business
2 behalf of the university on that. And I had also	2 and what did you say it was? Neil G?
3 done previous work for her to attempt to	3 A. N.G. Carlson Analytical.
4 modify -- putting --	4 Q. Uh-huh.
5 Q. Bless you.	5 A. And I'll need to refer to my notes on that
6 A. -- HEPA filters in her office and --	6 one --
7 et cetera.	7 Q. Okay.
8 Q. Okay.	8 A. -- to exactly remember when it started.
9 A. Trying to think if there was any other	9 I had done private consulting prior to
10 ones. There may have been one more. It would	10 that. And then I incorporated. And I -- I've
11 have been a workers' comp case, but I don't	11 got to find out when I incorporated here.
12 recall it. And it was quite a while back.	12 It's in here somewhere. I'm sorry.
13 Q. Now, other than providing testimony	13 Q. No. That's okay. I just couldn't find
14 or -- or doing analysis, what other type of job	14 it, either.
15 do you have?	15 A. Yeah, it's in here somewhere.
16 A. I have another job that's not affiliated	16 Q. Okay.
17 with the company that I am currently	17 A. But I buried it, unfortunately, so I ...
18 representing, which is N.G. Carlson Analytical.	18 Oh, here it is. Additional professional
19 I work at the University of Minnesota. And I am	19 activities.
20 a -- an industrial hygienist at that facility.	20 Q. Oh, okay.
21 And I do emergency management response. I do	21 A. So it's on -- it's not a numbered page,
22 ergonomic work. I do indoor air investigations,	22 which I apologize.
23 which in some cases has included a cleanup after	23 Q. That's okay.
24 we've had fires and trying to figure out how to	24 A. It says -- and 1996 to present --
25 clean up the space after we have had smoke and	25 Q. Okay.

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<p>1 A. -- is when -- when I've been doing that.</p> <p>2 I did consulting, again, without -- without it</p> <p>3 being an S corp prior to that and then</p> <p>4 incorporated at that time.</p> <p>5 Q. Okay. So from 1996 to now --</p> <p>6 A. Yes.</p> <p>7 Q. -- you've been, as far as doing activities</p> <p>8 where you're doing analytical analysis through</p> <p>9 N.G. Carlson -- and that would consist basically</p> <p>10 of -- of what -- cases like what we're dealing</p> <p>11 with now, where you are provided samples or you</p> <p>12 take those samples and then you run analysis on</p> <p>13 those to make a determination of what the</p> <p>14 components are?</p> <p>15 A. Essentially that. So in some cases I'm</p> <p>16 providing just the laboratory work --</p> <p>17 Q. Uh-huh.</p> <p>18 A. -- which is -- in this case I'm providing</p> <p>19 the laboratory work. In other cases I will</p> <p>20 actually go out and do the field investigation</p> <p>21 and take a look and try to see if I can figure</p> <p>22 out what's causing the -- the problem and the</p> <p>23 situation.</p> <p>24 And I think I disclosed in the other part</p> <p>25 of it that the part dealing with soot and -- or</p>	<p>1 Q. Sure.</p> <p>2 A. -- if you need that later.</p> <p>3 Q. No. That's fine.</p> <p>4 Now, as far as N.G. Carlson, where is it</p> <p>5 located, your --</p> <p>6 A. It's --</p> <p>7 Q. -- the business?</p> <p>8 A. The business residence or the location</p> <p>9 that is listed on the -- on the Secretary of</p> <p>10 State [sic] as my home residence.</p> <p>11 Q. Okay. And so where were you doing your</p> <p>12 analysis? Where is your lab?</p> <p>13 A. My lab is at least -- it's been at two</p> <p>14 places. I have used the University of Minnesota</p> <p>15 lab in S 66 of Boynton Health Service.</p> <p>16 More recently I purchased a microscope and</p> <p>17 have been doing all of my work out of my</p> <p>18 residence at 216 16th Avenue Southwest.</p> <p>19 Q. Okay. And so for the case that we're here</p> <p>20 for today, do you know where that testing was</p> <p>21 performed?</p> <p>22 A. The testing was -- be -- that testing was</p> <p>23 performed at the University of Minnesota Boynton</p> <p>24 Health Service lab in S 66.</p> <p>25 Q. Okay. And do you have, like, permission</p>
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<p>1 the combustion and soot analysis has been since</p> <p>2 September of 2011.</p> <p>3 Q. Okay.</p> <p>4 A. That was at the request of FBS.</p> <p>5 Q. And how many cases do you presently have</p> <p>6 with FBS?</p> <p>7 A. Oh, gosh. It's a -- ongoing or -- or</p> <p>8 all -- all-inclusive?</p> <p>9 Q. Say within the last five years, how many</p> <p>10 cases have you had with them?</p> <p>11 A. Our -- I'm going to have you clarify</p> <p>12 "cases."</p> <p>13 Q. Uh-huh.</p> <p>14 A. Do you mean just projects that I'm working</p> <p>15 on?</p> <p>16 Q. Let's call them projects, yeah?</p> <p>17 A. Okay, projects.</p> <p>18 Q. Uh-huh.</p> <p>19 A. Let's see.</p> <p>20 I'm going to have to give you a rough</p> <p>21 estimate of maybe between 100 to 150.</p> <p>22 Q. Okay.</p> <p>23 A. Maybe more than that, but it would just be</p> <p>24 an estimate. I'd have to go through all of</p> <p>25 that -- and I have that --</p>	<p>1 or rent it or how do you have the right to come</p> <p>2 in there and use their lab?</p> <p>3 A. We are allowed, through the -- through --</p> <p>4 I am an academic professional. And we're allowed</p> <p>5 to do work, outside consulting. And then we</p> <p>6 report that through reporting of outside</p> <p>7 activities annually. And we are allowed to use</p> <p>8 facilities on it provided that any materials that</p> <p>9 we consume will be -- we pay for.</p> <p>10 Q. Okay. Now, when I took Mr. Irmiter's</p> <p>11 deposition earlier, there was some discussion</p> <p>12 concerning the labs of MicroVision and,</p> <p>13 also -- is it E -- I'm going blank. Hold on.</p> <p>14 MR. SCOTT: EMSL?</p> <p>15 MS. CARSON: EMSL, thank you.</p> <p>16 Q. (By Ms. Carson, continuing) -- EMSL.</p> <p>17 There was some discussion about EMSL and</p> <p>18 MicroVision and about some of the testing that</p> <p>19 was performed, that EMSL and MicroVision and</p> <p>20 possibly your testing was not consistent.</p> <p>21 And do you know anything about that?</p> <p>22 A. Not -- not a lot. I know that Tom had</p> <p>23 been using both of those vendors. They use</p> <p>24 a -- I'm using the -- a phase one analysis,</p> <p>25 essentially, to -- I -- the way I describe it is,</p>

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<p>1 if you're thinking about, like, a -- a drunk-</p> <p>2 driving case, mine would be like the breathalyzer</p> <p>3 and then theirs would be two different forms of</p> <p>4 doing the blood analysis for alcohol.</p> <p>5 Q. Uh-huh.</p> <p>6 A. So it would be a little bit more precise.</p> <p>7 Mine is essentially a screening tool to say,</p> <p>8 "looks like we may have a problem" or "this</p> <p>9 doesn't look like a problem." Because the</p> <p>10 testing that both of those labs do are much more</p> <p>11 expensive, so we're trying to limit the amount of</p> <p>12 money that they spend trying to understand the</p> <p>13 problem.</p> <p>14 Q. What would be the difference between the</p> <p>15 testing that you did and the testing that</p> <p>16 MicroVision did as far as how in-depth it is,</p> <p>17 equipment that they use?</p> <p>18 A. I'm not fully un -- cognizant of all the</p> <p>19 things they do, because I haven't been in their</p> <p>20 lab.</p> <p>21 My understanding, at least, is that of</p> <p>22 the -- they are using a -- electron microscope,</p> <p>23 which allows them to see particles that are</p> <p>24 smaller than visual light. Typically the light</p> <p>25 microscopy method, when particles start to get</p>	<p>1 And then I'll take off the cassette. And</p> <p>2 then I'll put down the -- there's a little slide</p> <p>3 that's in the aerosol cassette.</p> <p>4 Q. Uh-huh.</p> <p>5 A. And it's got a sticky section that's up.</p> <p>6 I put that down on the slide. And then I put a</p> <p>7 cover slip on that. And I use lacto-fuchsin plus</p> <p>8 lactic acid. Sometimes, if I want to make a</p> <p>9 permanent mount, I use fingernail polish or I</p> <p>10 will use -- that is just 85 percent lactic acid.</p> <p>11 Place it down on the slide. Take the slide, put</p> <p>12 it under the scope. Do an initial scan at 100X</p> <p>13 and 200X. And in this case I would not have had</p> <p>14 the 200X in the initial scan at 100X. And then</p> <p>15 there would be a scan at 400X to take a look at</p> <p>16 the particles and look for mold particles and</p> <p>17 then soot-like and char-like particles.</p> <p>18 Q. Okay. So all of this would be done from</p> <p>19 you looking at a microscope?</p> <p>20 A. Yes. That would. For -- for the -- for</p> <p>21 the aerosol cassette, yes.</p> <p>22 Q. Okay. All right. Now, what's the other</p> <p>23 type of sample?</p> <p>24 A. The other sample there could be in this</p> <p>25 case -- they had a swab sample. And so they have</p>
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<p>1 smaller than one micron, it's -- it's difficult</p> <p>2 to see visually. And those they would have a --</p> <p>3 a -- a better way to optically see the smaller</p> <p>4 particles. They also are -- I believe this is</p> <p>5 the one that's also doing some chemical analysis</p> <p>6 on the material. And I don't do any of the</p> <p>7 chemical analysis on the material.</p> <p>8 Q. All right. Tell me what -- kind of go</p> <p>9 through this. Mr. Irmiter, or Ryan from his</p> <p>10 office -- they obtain the sample. They provide</p> <p>11 the sample to you with the -- with the chain of</p> <p>12 evidence. And then what do you do?</p> <p>13 A. I look through the chain of custody. And</p> <p>14 then I sign off initially when I receive it. And</p> <p>15 then on the dates that I do the analytical work,</p> <p>16 I sign off with a -- separate dates on when</p> <p>17 that's been completed. So there's two sections</p> <p>18 on the chain of custody.</p> <p>19 Then I will take a look at the -- let's</p> <p>20 see. For an aerosol cassette sample I open,</p> <p>21 mark -- mark it off on a -- a -- that's a -- the</p> <p>22 lab notes that I have would mark it off, saying</p> <p>23 on sample one and this is from wherever the --</p> <p>24 the information is on the -- the chain of</p> <p>25 custody.</p>	<p>1 a swab that they put in a -- a tube like this.</p> <p>2 So I take the swab out. And I'll take a tease</p> <p>3 tape off of the surface of the swab. And then</p> <p>4 put a mounting fluid, again, either -- in this</p> <p>5 case almost always either 85 percent lactic acid</p> <p>6 or the lactic acid plus the lacto-fuchsin. Put</p> <p>7 it down on the slide and then optically analyze</p> <p>8 the tease tape off of the swab.</p> <p>9 Q. Okay. And that's how you came up with</p> <p>10 each testing sample and what was within each</p> <p>11 testing sample?</p> <p>12 A. That is correct, yes.</p> <p>13 Q. Okay. Now, with -- with the other two</p> <p>14 companies that -- or Forensic Building Science</p> <p>15 was used in the phase four portion of it?</p> <p>16 A. Right.</p> <p>17 Q. There was some issue with the solution of</p> <p>18 the sample. Do you know anything about that?</p> <p>19 A. No, I don't. That's their analytical</p> <p>20 method.</p> <p>21 Q. Okay. Did -- were you critical at all of</p> <p>22 MicroVision's work?</p> <p>23 A. I don't recall -- recall that one. I</p> <p>24 would need to have my memory refreshed on that.</p> <p>25 Q. Okay. How about with -- what is it? --</p>

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<p>1 EMSL?</p> <p>2 A. Yeah, I -- again, I -- that -- I --</p> <p>3 not -- I'm not really in a position to judge</p> <p>4 those -- those two methods, because they are</p> <p>5 using techniques that I am not --</p> <p>6 Q. Okay.</p> <p>7 A. -- I'm -- I'm not privy to.</p> <p>8 Q. If EMSL, in many of their samples, came</p> <p>9 back with there was no soot present and then</p> <p>10 MicroVision came back that there was soot</p> <p>11 present, or much -- at a higher level, would you</p> <p>12 have any expert knowledge as to why those would</p> <p>13 be different?</p> <p>14 A. No. They are -- they are using techniques</p> <p>15 that I don't --</p> <p>16 Q. Okay.</p> <p>17 A. -- don't use, so that wouldn't be</p> <p>18 something I would know about.</p> <p>19 Q. So as far as whether MicroVision is</p> <p>20 correct or EMSL is correct, you're not provided</p> <p>21 to -- you're not here to provide expert opinion</p> <p>22 on that?</p> <p>23 A. No, I am not.</p> <p>24 Q. Okay. And as far as whether EMSL is using</p> <p>25 some type of alcohol delusion -- dis --</p>	<p>1 information that you've listed under "Basis of</p> <p>2 Opinions, Data and Information Considered."</p> <p>3 Did you speak with anyone in preparation</p> <p>4 of your deposition, other than to tell you where</p> <p>5 to go?</p> <p>6 A. I talked briefly with, I believe, this</p> <p>7 gentleman.</p> <p>8 THE WITNESS: It was either you or</p> <p>9 your colleague.</p> <p>10 MR. SCOTT: Clint Scott.</p> <p>11 (Multiple voices.)</p> <p>12 Q. (By Ms. Carson, continuing) This is</p> <p>13 Mr. Scott.</p> <p>14 MR. SCOTT: I am going to lodge an</p> <p>15 objection to the extent that there are any</p> <p>16 communications that are nondiscoverable. To the</p> <p>17 extent that I provided any facts or data on which</p> <p>18 the witness formed his opinions, I think that</p> <p>19 counsel certainly is entitled to ask that</p> <p>20 question, if I did that.</p> <p>21 But just general conversations I believe</p> <p>22 are protected and I'd -- I would instruct the</p> <p>23 witness not to disclose those.</p> <p>24 Q. (By Ms. Carson, continuing) Did -- as far</p> <p>25 as your conversations with Mr. Scott or</p>
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<p>1 dilution -- is that right? No -- diluting</p> <p>2 factor, would you have any type of opinion on</p> <p>3 that?</p> <p>4 A. No.</p> <p>5 Q. And you don't have an opinion as to</p> <p>6 whether EM -- EMSL or MicroVision -- one would be</p> <p>7 better or the other?</p> <p>8 A. I don't have enough information about</p> <p>9 their technique --</p> <p>10 Q. Okay.</p> <p>11 A. -- to -- to do that.</p> <p>12 Q. And then, once you were able to examine</p> <p>13 the swabs or the -- then at that point you were</p> <p>14 able to provide an opinion as to what you saw?</p> <p>15 A. That's correct, yes.</p> <p>16 Q. And then that opinion -- you would have</p> <p>17 provided it to Mr. Irmiter as part of the phase</p> <p>18 one?</p> <p>19 A. That is correct.</p> <p>20 Q. And then at that point, unless you were</p> <p>21 needed to do other testing, you would no longer</p> <p>22 be involved?</p> <p>23 A. That is correct, yes.</p> <p>24 Q. Now, what -- as far as preparing for the</p> <p>25 deposition, I know that you've reviewed the</p>	<p>1 Mr. McWherter either now or -- or later,</p> <p>2 understanding Mr. Scott's objection, did -- did</p> <p>3 they provide you any information about what you</p> <p>4 were going to be testifying to today?</p> <p>5 A. I'm trying to think.</p> <p>6 Other than saying that I would be</p> <p>7 testifying to -- to this.</p> <p>8 Q. Uh-huh.</p> <p>9 A. And making sure that it got to the right</p> <p>10 place, I'm trying to think if there's anything</p> <p>11 else that we discussed.</p> <p>12 MR. SCOTT: Note my objection is</p> <p>13 any -- anything not related to facts or data upon</p> <p>14 which your opinions are based in this case.</p> <p>15 THE WITNESS: Okay.</p> <p>16 MR. SCOTT: So if we discussed how to</p> <p>17 get here, that has nothing to do with your facts</p> <p>18 or data based on your opinions. It -- what color</p> <p>19 car you drive, that sort of thing.</p> <p>20 THE WITNESS: Okay.</p> <p>21 MR. SCOTT: And so --</p> <p>22 A. (Continuing) Yeah, I -- it was -- let's</p> <p>23 see. I -- we discussed your demeanor. And he</p> <p>24 said you were a pleasant person, which I thought</p> <p>25 was --</p>

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<p>1 MR. SCOTT: Well, again, I appreciate</p> <p>2 you telling the truth, but that -- that has</p> <p>3 nothing to do with the facts or the data --</p> <p>4 THE WITNESS: Yeah.</p> <p>5 MR. SCOTT: -- upon which your</p> <p>6 opinions -- and that's not discoverable by the</p> <p>7 other side or the --</p> <p>8 A. (Continuing) Yeah, I didn't -- there --</p> <p>9 there wasn't any real -- real discussion. I'm</p> <p>10 just making sure that, you know, that I -- that I</p> <p>11 read through, you know -- that I read through --</p> <p>12 that I was prepared and that -- if I had any</p> <p>13 questions about how the process was going to go.</p> <p>14 It wasn't a very long discussion. It was</p> <p>15 about -- approximately a half hour.</p> <p>16 Q. Okay. Now, as far as your involvement in</p> <p>17 this matter --</p> <p>18 A. Uh-huh.</p> <p>19 Q. -- were you contacted by Mr. Irmiter to</p> <p>20 provide the analytical information or were you</p> <p>21 contacted by plaintiff's counsel to become</p> <p>22 involved?</p> <p>23 A. As I recall, at the beginning of the</p> <p>24 process for -- for the report, I was contacted by</p> <p>25 Mr. Irmiter on that. And he -- it's a standard</p>	<p>1 Q. Okay. And we've kind of gone over that</p> <p>2 you had some conversation with Mr. Scott, maybe</p> <p>3 somebody else in his office.</p> <p>4 But have you talked to anyone at Northend,</p> <p>5 which is -- Northend would be the owner of the</p> <p>6 building itself. And that would be Mr. John</p> <p>7 Ayers.</p> <p>8 Have you ever spoken with him?</p> <p>9 A. I don't think so. I mean, I was on a</p> <p>10 conference call, but I believe it was probably --</p> <p>11 I don't think his name came up. And I apologize</p> <p>12 if I don't recall it, but I don't think so.</p> <p>13 Q. Okay. With the conference call that you</p> <p>14 were on, was that just concerning the -- the case</p> <p>15 itself, do you remember? And -- and just --</p> <p>16 A. I -- well --</p> <p>17 Q. And, again --</p> <p>18 A. -- I don't know if it necessarily was the</p> <p>19 case. It was more I had the -- the results and I</p> <p>20 needed to get the written document that you</p> <p>21 needed.</p> <p>22 Q. Okay.</p> <p>23 MR. SCOTT: And I'm, once again,</p> <p>24 going to instruct the witness, based on Federal</p> <p>25 Rules of Civil Procedure 26 --</p>
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<p>1 practice. I do a lot of work for him. And he</p> <p>2 just said -- he just sent some samples and said,</p> <p>3 "Analyze these."</p> <p>4 Q. Now, have you ever provided testimony in</p> <p>5 Tennessee?</p> <p>6 A. No. Not to my knowledge.</p> <p>7 Q. Okay.</p> <p>8 A. I just -- just recalled another one where</p> <p>9 I testified, so -- just so that you can be clear.</p> <p>10 Q. Uh-huh.</p> <p>11 A. It was on a house that was constructed.</p> <p>12 And it was a mobile house. And they had it off</p> <p>13 center and it caused damage.</p> <p>14 Q. All right.</p> <p>15 A. And that was from St. Louis. That's what</p> <p>16 triggered it. So not Tennessee, as far as I</p> <p>17 know.</p> <p>18 Q. Okay. Have you ever been admitted as an</p> <p>19 expert in the state of Tennessee, that you're</p> <p>20 aware of?</p> <p>21 A. Not to my knowledge, no.</p> <p>22 Q. Have you ever -- and I'm going to go</p> <p>23 through a few people. And I know that you've</p> <p>24 talked to Mr. -- Mr. Irmiter.</p> <p>25 A. Yes.</p>	<p>1 THE WITNESS: Yeah.</p> <p>2 MR. SCOTT: -- any communications</p> <p>3 that involve my office --</p> <p>4 THE WITNESS: Okay.</p> <p>5 MR. SCOTT: -- are not discoverable</p> <p>6 unless there's facts or data provided during</p> <p>7 those communications that help form the basis of</p> <p>8 your opinion.</p> <p>9 I think I'm accurately quoting.</p> <p>10 MS. CARSON: Close enough.</p> <p>11 MR. SCOTT: There may be some --</p> <p>12 MS. CARSON: Yeah.</p> <p>13 THE WITNESS: Okay.</p> <p>14 Q. (By Ms. Carson, continuing) Okay. So --</p> <p>15 so you had a conference call, you believe, at</p> <p>16 some juncture. Do you know -- and I -- again,</p> <p>17 listen to what Mr. Scott said, because I believe</p> <p>18 he's correct in his opinion there.</p> <p>19 But who was on the conference call with</p> <p>20 you?</p> <p>21 A. I remember Mr. Irmiter. And I don't</p> <p>22 recall who the other person on the line was</p> <p>23 at -- at the time, but at least Mr. Irmiter was</p> <p>24 on. And we were trying to -- and there was one</p> <p>25 other person. And we were just kind of going</p>

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<p>1 over that I needed to get this thing --</p> <p>2 Q. Okay.</p> <p>3 A. -- put together.</p> <p>4 Q. Have you ever put together what we call</p> <p>5 a -- a Rule 26 expert report before?</p> <p>6 A. Is this a Rule 26?</p> <p>7 Q. Yeah.</p> <p>8 A. Yes, I did in the Select Comfort case.</p> <p>9 Q. Okay.</p> <p>10 A. And I may have in some other ones, but</p> <p>11 that's the most recent one that I recall.</p> <p>12 Q. Okay. Do you know if you've ever talked</p> <p>13 to anyone from Southern Trust, which is the</p> <p>14 insurance company that I represent?</p> <p>15 A. Not to my knowledge.</p> <p>16 Q. Okay. How about, have you ever spoken</p> <p>17 with any employees that were within the building</p> <p>18 in -- in Lexington?</p> <p>19 A. No. I did not speak directly. I -- I</p> <p>20 went through the written tests -- the -- whatever</p> <p>21 that was, the --</p> <p>22 Q. You read their depositions?</p> <p>23 A. The depositions, yeah.</p> <p>24 Q. Okay.</p> <p>25 A. But I don't -- I haven't talked to them in</p>	<p>1 different -- answer that differently as we go</p> <p>2 through this.</p> <p>3 Q. Okay. Do you work with any other</p> <p>4 companies, other than FBS or Mr. Irmiter?</p> <p>5 A. Yes, I do.</p> <p>6 Q. What other companies do you work with?</p> <p>7 A. I work with Environmental Process, Inc. I</p> <p>8 work with Mac Pearce. I work with Tamarack</p> <p>9 Environmental. I work with -- let's see. I have</p> <p>10 worked in the past with Institute For</p> <p>11 Environmental Assessment. Let's see. Mentioned</p> <p>12 Tamarack.</p> <p>13 Did I mention Tamarack correctly [sic]?</p> <p>14 Is that correct?</p> <p>15 Q. I think you did.</p> <p>16 A. Okay. Yep.</p> <p>17 And then I occasionally do work with</p> <p>18 private homeowners that request that I come out</p> <p>19 and evaluate the situation.</p> <p>20 I've also worked with a company in Mankato</p> <p>21 on their -- they were -- they were doing a</p> <p>22 plastics operation. And I was measuring various</p> <p>23 chemicals as part of their plastics operation.</p> <p>24 And I've also done work -- outside</p> <p>25 consulting work on ergonomics with many different</p>
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<p>1 person.</p> <p>2 Q. Now, as far as the fire department. I</p> <p>3 know you have their declarations or affidavits</p> <p>4 that you have read.</p> <p>5 Have you ever spoken to any of them?</p> <p>6 A. No, I did not.</p> <p>7 Q. Okay. Has anyone ever told you that</p> <p>8 anyone that was working in the building, which</p> <p>9 First State Bank rents it -- not First State --</p> <p>10 First Bank rents it.</p> <p>11 Has anyone ever told you that any employee</p> <p>12 there had any type of problem with breathing,</p> <p>13 headaches, any type of issue?</p> <p>14 A. I can't recall if somebody ever mentioned</p> <p>15 that.</p> <p>16 Q. Okay. You're not here today to provide</p> <p>17 testimony concerning that this is a health hazard</p> <p>18 for anyone, are you?</p> <p>19 A. On this one -- I have to look at this. I</p> <p>20 think -- make sure that I -- I'm going to -- not</p> <p>21 serving here in a medical capacity, if that's</p> <p>22 what you're saying.</p> <p>23 Q. Okay. Well, we'll kind of get through</p> <p>24 that a little bit more in --</p> <p>25 A. So it may come out that it might be</p>	<p>1 companies. It's, I would say -- let's say</p> <p>2 several different companies, to be accurate with</p> <p>3 that.</p> <p>4 See if there's any other ones.</p> <p>5 And then occasion -- oh, then there's been</p> <p>6 some small private firms, one of them which is no</p> <p>7 longer -- A-1 Hartland Mold Consulting.</p> <p>8 Q. Okay. Now, with the different companies</p> <p>9 you've worked with, whether it's Mr. Irmiter or</p> <p>10 some of the others that you have mentioned, I</p> <p>11 think we've kind of talked about fire cases. And</p> <p>12 it appears that fire is kind of a new issue for</p> <p>13 you?</p> <p>14 A. That is correct, yes.</p> <p>15 Q. Okay.</p> <p>16 A. Since that -- since the -- 2011, yep.</p> <p>17 Q. And with the fire cases that you've looked</p> <p>18 at, have you ever dealt with a warehouse before?</p> <p>19 A. I may or may not have. Because I -- I</p> <p>20 don't know all the locations that -- the samples</p> <p>21 that Tom sent me.</p> <p>22 Q. Okay.</p> <p>23 A. He's sent me from -- from all -- from all</p> <p>24 over North America. And so I -- I don't know if</p> <p>25 some of the other ones have been warehouses.</p>

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<p>1 Q. Does it matter to you whether it's an</p> <p>2 indoor setting or considered to be an outdoor</p> <p>3 setting, when you are looking at samples?</p> <p>4 A. Yes.</p> <p>5 Q. And what would you consider the warehouse</p> <p>6 to be?</p> <p>7 A. If -- if you do a warehouse sample and the</p> <p>8 building is essentially closed up 24 hours prior</p> <p>9 to the sample, then it would be considered an</p> <p>10 indoor setting. If, however, all of the windows</p> <p>11 and doors are open, then it would be considered</p> <p>12 an outdoor sample --</p> <p>13 Q. Okay.</p> <p>14 A. -- because of the amount of outside air</p> <p>15 that's coming in.</p> <p>16 Q. Do you know whether or not all the windows</p> <p>17 and doors were closed in the warehouse when the</p> <p>18 samples were taken?</p> <p>19 A. I read Mr. Irmiter's discussion on it.</p> <p>20 And he indicated that the building was closed up,</p> <p>21 but it would be based on his test -- his written</p> <p>22 description. It wouldn't be based on personal</p> <p>23 knowledge that I had.</p> <p>24 Q. Okay. Do you know anything -- well, I</p> <p>25 guess, have you ever been to the building in</p>	<p>1 Q. Okay. Now, as far as the office space</p> <p>2 that was being used, did you consider that to be</p> <p>3 an indoor environment?</p> <p>4 A. Yes.</p> <p>5 Q. Do you know anything about the walls that</p> <p>6 separate and the ceilings that separate the</p> <p>7 warehouse and the office space?</p> <p>8 A. I don't have direct knowledge of it. I --</p> <p>9 the -- they were -- from reading the description</p> <p>10 of the property, there's some gypsum wall</p> <p>11 assembly. And -- and there's some insulation in</p> <p>12 the walls that -- at least on the exterior</p> <p>13 wall -- that it is -- it was listed in the</p> <p>14 document as having a vinyl face and then having a</p> <p>15 fiberglass behind the vinyl.</p> <p>16 Q. Okay. Have you -- have you ever tested a</p> <p>17 warehouse before that was in -- that did</p> <p>18 manufacturing and used forklifts, to make any</p> <p>19 determination whether there was any soot</p> <p>20 particles?</p> <p>21 A. In that way I'd have to say I -- I am not</p> <p>22 sure if I did, based on the large number of</p> <p>23 samples that I received from FBS.</p> <p>24 Q. As far as you know, has anyone ever come</p> <p>25 to you and asked for you to do sampling on a</p>
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<p>1 Lexington?</p> <p>2 A. No, I have not.</p> <p>3 Q. Do you know how many large roll-up doors</p> <p>4 that they have?</p> <p>5 A. No, I do not.</p> <p>6 Q. Do you know anything about the exhaust</p> <p>7 system or the exhaust fans that are there?</p> <p>8 A. Not specifically, other than they -- they</p> <p>9 were mentioned in one of the reports as having</p> <p>10 soot on them.</p> <p>11 Q. Okay. And as far as the history of the</p> <p>12 property, do you know any information about the</p> <p>13 history of the property prior to the fire?</p> <p>14 A. No direct knowledge of that.</p> <p>15 Q. Do you have any information about whether</p> <p>16 or not it was used for manufacturing?</p> <p>17 A. I do not have any direct knowledge of</p> <p>18 that.</p> <p>19 Q. Do you have any information concerning its</p> <p>20 use with forklifts or other type of gas-powered</p> <p>21 automobiles, vehicles, things like that?</p> <p>22 A. I do not have direct knowledge of that.</p> <p>23 Q. Do you know what type of heating the</p> <p>24 warehouse has?</p> <p>25 A. I don't think I've been informed of that.</p>	<p>1 warehouse that did not have a fire, to make a</p> <p>2 determination as to whether there was any soot</p> <p>3 finding?</p> <p>4 A. I wouldn't know that for sure.</p> <p>5 Q. Okay. Do you agree that a warehouse</p> <p>6 that -- that does complete manufacturing -- that</p> <p>7 would be, say, refrigeration, air systems -- they</p> <p>8 would have some type of soot that would likely be</p> <p>9 within the warehouse even without a fire?</p> <p>10 MR. SCOTT: Object to the form.</p> <p>11 You can answer.</p> <p>12 THE WITNESS: I can answer.</p> <p>13 MR. SCOTT: Over my objection.</p> <p>14 Preserve --</p> <p>15 A. (Continuing) I can. Okay.</p> <p>16 It would depend on the activities that</p> <p>17 were occurring in there.</p> <p>18 Q. Okay. Did you -- did you do any</p> <p>19 investigation into this warehouse, about what</p> <p>20 activities were occurring?</p> <p>21 A. I do not have any -- I did not do any</p> <p>22 direct investigation. And I don't have any</p> <p>23 direct knowledge about the past activities in</p> <p>24 that building.</p> <p>25 Q. If you were going to do a -- analysis of a</p>

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1 home that used a -- used wood heating, would you	1 Q. And as far as EMSL or MicroVision, you're
2 expect to find soot in that home?	2 not here to provide an opinion on their finding?
3 A. It would depend. If the design of the	3 A. That is correct, yes.
4 fireplace was excellent, with proper drafting, I	4 Q. Does it matter how long a fire burned, in
5 wouldn't expect to find much. If the design of	5 your analysis?
6 the fireplace was not appropriate, that there was	6 A. My analysis -- it doesn't cover that. It
7 smoke that was coming in, then yes, I would.	7 would -- I would just look at the particles that
8 Q. And I think we've talked about the	8 I see. And I don't -- I don't have knowledge of
9 differences between soot and smoke already.	9 that prior to doing the analysis.
10 And with the soot, when you do an	10 Q. And your testimony today is not that --
11 analysis, that would -- the analysis would differ	11 that because you had specific finding, that
12 based on the manufacturing or what was going on	12 certain repairs should be done?
13 in the building. It would also be different	13 A. I think that would be inaccurate.
14 based on what burned.	14 Q. Okay. All right. Let me say it again.
15 MR. SCOTT: Object to the form.	15 Sounded like it was a bad question.
16 A. (Continuing) I think I -- I'm not exactly	16 Based on your findings, are you stating
17 understanding --	17 that certain repairs should be done?
18 Q. Sure.	18 A. I'm -- let's see. Let's take a look at
19 A. -- your question.	19 that. Based on -- on my findings and the other
20 Q. If --	20 information provided that I reviewed, that I
21 A. If you could rephrase.	21 would recommend certain -- certain things be
22 Q. Uh-huh.	22 done, yes.
23 If you were going to do an analysis for	23 Q. Okay.
24 soot, would it -- your analysis or your findings	24 A. The -- the totality of the information.
25 would be different depending on whether or not	25 Q. Now, some of the information that we've
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1 there was manufacturing potentially in the	1 seen -- we've seen talks about fungal growth.
2 building, whether there was gas and vehicles,	2 Fungal growth has nothing to do with this case,
3 whether there was any type of -- of motor, maybe,	3 correct?
4 that was running and, if there was a fire, what	4 A. As far as I know.
5 burned?	5 Q. Okay.
6 MR. SCOTT: Object to the form.	6 A. It would -- the only piece that I would
7 A. (Continuing) The analysis that I do -- I	7 put in there is it -- it impacts on -- for
8 look at the samples that come in and I -- I -- at	8 instance, we're looking -- I understand that the
9 the time of the analysis I'm not given that	9 insulation is a -- a -- a point of contention.
10 information.	10 And there is actual growth on the insulation,
11 Q. Okay. But with your analysis, you are	11 based on the samples I've had.
12 able to determine, like, whether it was a wood	12 So, based on the IICRC guidelines, since
13 fire or a plastic fire?	13 we have growth in the material, it will need to
14 A. My analysis is not that specific. That's	14 be removed irrespective of anything else.
15 why it's a phase one.	15 Q. Okay. And that's fungal growth?
16 Q. Okay.	16 A. That is fungal growth.
17 A. A phase-four analysis would do the	17 Q. But you're not giving an opinion that the
18 chemical analysis that helps you differentiate	18 fungal growth was caused by the fire?
19 that.	19 A. I have no knowledge of -- of that being
20 Q. Okay. So your analysis -- you would not	20 related at all.
21 be able to tell the difference, whether it was a	21 Q. Okay. And burning a candle in your home.
22 gas fire or a -- any other type of fire?	22 That can cause soot, could it not?
23 A. Correct. I'm just looking at the	23 A. Yes.
24 particles that are produced that appear to be	24 Q. A charred marshmallow. That has char on
25 soot-like or char-like.	25 the outside of the marshmallow, correct?

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<p>1 A. Yes. If you -- if you cook it --</p> <p>2 Q. Long enough?</p> <p>3 A. -- and don't have it brown, yeah.</p> <p>4 Q. A campfire would potentially give off</p> <p>5 soot, is that right?</p> <p>6 A. Yes.</p> <p>7 Q. Have you seen pictures of the warehouse?</p> <p>8 A. Yes, I have. They were provided to me.</p> <p>9 Q. Are those important in your analysis?</p> <p>10 A. Yes. They are important at least as -- at</p> <p>11 my deposition here. They weren't important with</p> <p>12 respect to, you know, the -- the samples that I</p> <p>13 received. That's a separate analytical part from</p> <p>14 trying to figure out what needs to be done as far</p> <p>15 as remediation.</p> <p>16 Q. Okay.</p> <p>17 A. Does that help clarify?</p> <p>18 Q. I think I understand.</p> <p>19 So when you get your sample, you don't go</p> <p>20 and look to see to see where that sample came</p> <p>21 from. You're just looking at what's in the</p> <p>22 sample?</p> <p>23 A. Right. In fact, most of the time I just</p> <p>24 go through that and then look at the location</p> <p>25 later.</p>	<p>1 be a path for the -- the -- the combustion</p> <p>2 particles to be deposited.</p> <p>3 Q. Okay. Now, you mentioned before, when I</p> <p>4 asked you some questions about indoor and open --</p> <p>5 indoor environment and open environment -- if</p> <p>6 the -- if the warehouse had areas where there</p> <p>7 were gaps in the -- between the walls and the</p> <p>8 flooring where you could actually see outside,</p> <p>9 would that make it a -- less likely to be an</p> <p>10 indoor environment?</p> <p>11 A. It would be a less-controlled indoor</p> <p>12 environment. It would depend on, for instance,</p> <p>13 the -- the way the building was pressurized or</p> <p>14 not pressurized.</p> <p>15 Q. Okay.</p> <p>16 A. But it -- yeah, the more -- the more open</p> <p>17 space that there is, the more similar to an</p> <p>18 outdoor environment the space -- the indoor</p> <p>19 environment would be.</p> <p>20 Q. Okay. Would that change your opinion at</p> <p>21 all, if you knew that there were gaps like that</p> <p>22 between the walls and the flooring, where it</p> <p>23 wasn't an environment where all the doors were</p> <p>24 down, the windows were closed?</p> <p>25 A. Not that much. The one sample that we had</p>
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<p>1 Q. All right. And so why, for your</p> <p>2 deposition today, is it important that you see</p> <p>3 the photographs?</p> <p>4 A. I was asked to give some suggestions as to</p> <p>5 what would be appropriate for remediation. And</p> <p>6 seeing the photographs, where it -- at least</p> <p>7 when -- the ones that I've seen from -- I believe</p> <p>8 they were taken by the fire department, where it</p> <p>9 was very hazy, difficult to see. There was what</p> <p>10 appeared to be some particles of combustion on</p> <p>11 cobwebs. And then what appeared to be cuts in</p> <p>12 the vinyl exterior wall insulation. That was it.</p> <p>13 Q. Okay. And why were those important?</p> <p>14 A. It -- it looked -- it -- from the visual</p> <p>15 appearance, it looked like that as a result of a</p> <p>16 recent event, i.e., the fire that occurred here,</p> <p>17 that there was obvious smoke and soot deposition</p> <p>18 during the course of that uncontrolled</p> <p>19 combustion.</p> <p>20 And that there were -- with respect to the</p> <p>21 exterior vinyl wall, the whole thing was</p> <p>22 completely intact and didn't have any -- any</p> <p>23 gaps, it would be less likely for the soot</p> <p>24 particles to enter into that insulation. If</p> <p>25 there were gaps, then it's more likely for it to</p>	<p>1 that was ambient, I said that this sample looks</p> <p>2 like the -- I can't remember -- I think it was</p> <p>3 the first air sample.</p> <p>4 Q. Uh-huh, right. You can -- I don't know if</p> <p>5 you have those as part of your --</p> <p>6 A. No.</p> <p>7 Q. -- report.</p> <p>8 A. Yeah.</p> <p>9 Q. This is Mr. Irmiter's report.</p> <p>10 A. Let's see if I can find that one.</p> <p>11 MS. CARSON: I'm going to take a</p> <p>12 quick break, real quick, and run to the rest room</p> <p>13 while he's looking at that.</p> <p>14 THE WITNESS: Okay, sure.</p> <p>15 (Recess from 1:45 p.m. to 1:51 p.m.)</p> <p>16 MS. CARSON: All right. Let's go</p> <p>17 back on.</p> <p>18 Q. (By Ms. Carson, continuing) I think you</p> <p>19 were going to look in your report.</p> <p>20 A. Oh, yes.</p> <p>21 Q. I'm sorry.</p> <p>22 A. I -- I dog-eared the location. So --</p> <p>23 Q. Okay.</p> <p>24 A. So the sample number 5, which is the</p> <p>25 ambient air sample in the warehouse, had</p>

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<p>1 organisms. And that would -- let's see. I --</p> <p>2 there's no numbering on this page, so it's --</p> <p>3 Q. Yes.</p> <p>4 A. -- this -- this one right here, the first</p> <p>5 sample.</p> <p>6 Q. Let me get --</p> <p>7 A. So -- yeah. Let's see. If -- if you're</p> <p>8 looking, there's this thing that's kind of --</p> <p>9 will come up.</p> <p>10 Q. Yeah. I thought it would be a little</p> <p>11 quicker -- okay.</p> <p>12 A. Not quite yet.</p> <p>13 Q. Okay. I thought you were before that.</p> <p>14 A. Let's see. There are pictures and then</p> <p>15 there's the warehouse -- whole bunch of warehouse</p> <p>16 pictures.</p> <p>17 Q. Uh-huh.</p> <p>18 A. So -- so we got -- you go through all 60</p> <p>19 of the warehouse pictures. And then I'm after</p> <p>20 that.</p> <p>21 May I help you out?</p> <p>22 Q. Yes.</p> <p>23 A. There we go.</p> <p>24 Q. Good find. All right.</p> <p>25 A. All right. So this the sample for air</p>	<p>1 Q. That is -- that's your notes. Is that</p> <p>2 your thought process from you looking at this</p> <p>3 document -- or these samples or is that something</p> <p>4 that this database spits out?</p> <p>5 A. No. It's nothing that the database spits</p> <p>6 out. It's based on my experience that when I</p> <p>7 see, for instance, Ganoderma, which is a organism</p> <p>8 that typically grows on rotting wood -- some</p> <p>9 basidiospores and ascospores.</p> <p>10 Q. All right. Tell me what those two things</p> <p>11 are.</p> <p>12 A. Oh, okay. Basidiospores are spores that</p> <p>13 are produced by mushrooms.</p> <p>14 Q. Okay.</p> <p>15 A. And Ganoderma is produced by -- if you go</p> <p>16 out in the woods and you see a bracket fungi --</p> <p>17 little brackets that come out.</p> <p>18 Q. Uh-huh.</p> <p>19 A. And they have a flat base here and they</p> <p>20 are up like that.</p> <p>21 Q. Uh-huh, right.</p> <p>22 A. That's a Ganoderma-type organism.</p> <p>23 Q. Okay.</p> <p>24 A. And then the ascospores are produced by a</p> <p>25 lot of different organisms. Typically they are</p>
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<p>1 sample number five.</p> <p>2 Q. Uh-huh.</p> <p>3 A. The organisms present there -- for</p> <p>4 instance, the Ganoderma, the ascospores, the</p> <p>5 basidiospores, the Nigrospora, the myxomycete and</p> <p>6 the pithomyces -- all of those are primarily</p> <p>7 outdoor organisms. So -- and I made a note</p> <p>8 there. This is a very -- similar to a typical</p> <p>9 outdoor air sample.</p> <p>10 So at least in that specific section it</p> <p>11 looks like we are getting some outside air into</p> <p>12 this space. Or at least the organisms that are</p> <p>13 present are ones that I would typically find in</p> <p>14 an outside air sample.</p> <p>15 And I apologize. I have a daughter at</p> <p>16 home. And may I take this?</p> <p>17 Q. Please.</p> <p>18 A. Okay. Thank you.</p> <p>19 (Recess from 1:53 p.m. to 1:54 p.m.)</p> <p>20 MS. CARSON: Okay.</p> <p>21 Q. (By Ms. Carlson, continuing) Now -- and</p> <p>22 I've talked a -- a little bit about this with</p> <p>23 Mr. Irmeter. But it says under notes, "very</p> <p>24 similar to a typical outdoor air sample."</p> <p>25 A. Right.</p>	<p>1 on the ground. The most famous ascospore, which</p> <p>2 is edible, is a morel mushroom. But there's a</p> <p>3 lot of other ascospores that produce those. And</p> <p>4 those are typically more outdoor fungi, unless</p> <p>5 this specific structure has a tremendous amount</p> <p>6 of water damage -- and I am not -- don't know if</p> <p>7 that's the case in this case.</p> <p>8 Q. Okay.</p> <p>9 A. And then the myxomycete is -- are also</p> <p>10 another typically found outdoor spore which</p> <p>11 occasionally comes, then, inside.</p> <p>12 So that profile would either indicate that</p> <p>13 we had some outdoor air or that a sufficient</p> <p>14 amount of outdoor air had come in, in the past,</p> <p>15 to cause it to stir up to present these</p> <p>16 organisms.</p> <p>17 Q. And --</p> <p>18 A. Those are -- those are fairly high for an</p> <p>19 indoor sample.</p> <p>20 Q. Fairly high?</p> <p>21 A. Yes. Especially the Ganoderma. That's</p> <p>22 atypically high.</p> <p>23 Q. Does that tell you anything? Is that a</p> <p>24 red flag to you, that it's high?</p> <p>25 A. Not necessarily a red flag. It just</p>

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<p>1 indicates that the space that I'm sampling is --</p> <p>2 is probably not 100 percent, but probably had</p> <p>3 some out -- outside air.</p> <p>4 Q. Okay. Now, in the second column you have</p> <p>5 fung -- fungal -- fungal part -- particles, cubic</p> <p>6 meter. Those listed. And then below that you</p> <p>7 have 8,055 heavy trace.</p> <p>8 That's all to do with the fungal, correct?</p> <p>9 A. Yes, that's correct, yeah.</p> <p>10 Q. Okay. And that would be true for every</p> <p>11 column, too?</p> <p>12 A. Right, right.</p> <p>13 Q. You don't have, like, a -- a specific, I</p> <p>14 guess, column or information about the soot,</p> <p>15 other than what's in column three, where you say,</p> <p>16 for example, in number six, you have "light soot</p> <p>17 most," "light char most"?</p> <p>18 A. Right. Yeah, that's the only reference I</p> <p>19 have, at least in the specific section on the</p> <p>20 aerosol samples, that table, that's correct.</p> <p>21 Q. Now, what does that tell you, when you see</p> <p>22 "light soot most, less than five microns"?</p> <p>23 A. The -- that would be the size of the --</p> <p>24 MR. SCOTT: Object to form.</p> <p>25 Q. (By Ms. Carson, continuing) Oh, I'm sorry.</p>	<p>1 they -- read with the fire department, it</p> <p>2 indicated that they had used some mechanical</p> <p>3 ventilation to try to get rid of the smoke. So</p> <p>4 the force of the mechanical ventilation would</p> <p>5 cause the -- the soot and the particles to be</p> <p>6 deposited in a lot of different areas, as</p> <p>7 evidenced by the -- like, the exhaust fans that</p> <p>8 were listed in that one report or --</p> <p>9 Q. Uh-huh.</p> <p>10 A. They were deposited on that. So you can</p> <p>11 have some mechanical force that would cause it to</p> <p>12 deposit it in all number of locations.</p> <p>13 Q. Okay. How about the -- let's look at</p> <p>14 number 14.</p> <p>15 A. Okay. Yep.</p> <p>16 Q. And this is --</p> <p>17 MR. SCOTT: I'm just looking over</p> <p>18 your shoulder --</p> <p>19 THE WITNESS: Well, I --</p> <p>20 MR. SCOTT: -- because I don't have a</p> <p>21 copy. So you keep it in front of you. Don't</p> <p>22 trouble -- but --</p> <p>23 THE WITNESS: Yeah, okay.</p> <p>24 Q. (By Ms. Carson, continuing) "Well cavity</p> <p>25 second floor west stair wall"?</p>
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<p>1 "More than five microns"?</p> <p>2 A. Okay. Well, it -- when it says "more than</p> <p>3 five" -- "five microns," that would be -- when</p> <p>4 I'm looking at the particles under a microscope,</p> <p>5 I have a micrometer there. And most of the</p> <p>6 particles that would be agglomerated for the soot</p> <p>7 would be in agglomerations or -- or cobbled</p> <p>8 together. Think of them like grapes.</p> <p>9 Q. Uh-huh.</p> <p>10 A. So the bunches of grapes are big enough</p> <p>11 together so that they are bigger than five</p> <p>12 microns.</p> <p>13 Q. Okay. Now, when you have a -- a fire</p> <p>14 like -- like this one, where it's in the</p> <p>15 middle -- somewhat in the middle of a warehouse --</p> <p>16 A. Uh-huh.</p> <p>17 Q. -- would you expect to find more soot on</p> <p>18 lower areas or more on higher areas?</p> <p>19 MR. SCOTT: Object to the form.</p> <p>20 A. (Continuing) I don't have an opinion about</p> <p>21 whether they would be lower or higher. I would</p> <p>22 expect more -- I would expect some to be</p> <p>23 deposited on horizontal surfaces, whether they be</p> <p>24 high or low.</p> <p>25 And then, also, with the description that</p>	<p>1 A. Yes.</p> <p>2 Q. Oh, "30 liters," what does that mean?</p> <p>3 A. The "30 liters" is the volume of air</p> <p>4 samples.</p> <p>5 Q. Okay. And in this one it appears to be</p> <p>6 more than some of the others. And you have</p> <p>7 listed "light char, heavy soot, many less than</p> <p>8 five microns."</p> <p>9 A. Correct.</p> <p>10 Q. Is that right?</p> <p>11 A. That is correct, yes.</p> <p>12 Q. Okay. And now, in this area -- do</p> <p>13 you -- and I guess -- let me ask you like this.</p> <p>14 Do you have any opinion as to why you're finding</p> <p>15 soot in -- soot in heavier areas, then lighter in</p> <p>16 some areas?</p> <p>17 A. I don't know exactly why they would be</p> <p>18 deposited there.</p> <p>19 Q. Okay.</p> <p>20 A. Given that the fire department did some</p> <p>21 mechanical ventilation, that could have caused</p> <p>22 some -- some -- some -- some, let's say, non --</p> <p>23 let's see -- some distribution that may not be</p> <p>24 spread out equally.</p> <p>25 Q. Okay.</p>

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<p>1 A. How about that?</p> <p>2 Q. Okay. So when they came in and turned the</p> <p>3 fans or did whatever they did, it would have</p> <p>4 changed just the normal fall of the soot?</p> <p>5 A. Correct.</p> <p>6 Q. Okay.</p> <p>7 A. Because they provided mechanical energy to</p> <p>8 it.</p> <p>9 Q. All right. Okay. I'm going to go back to</p> <p>10 your opinion now.</p> <p>11 A. Sure.</p> <p>12 Q. There --</p> <p>13 A. So that's the --</p> <p>14 Q. Uh-huh.</p> <p>15 A. This one.</p> <p>16 Q. Uh-huh.</p> <p>17 A. Okay. Thank you.</p> <p>18 Q. And, if you will, I'm just looking at the</p> <p>19 summary of the opinion.</p> <p>20 A. That's on page 2.</p> <p>21 Q. 2, yes, sir.</p> <p>22 A. Okay. Sorry again.</p> <p>23 Q. No. That's okay.</p> <p>24 (Recess from 2:01 p.m. to 2:03 p.m.)</p> <p>25 MS. CARSON: Back on.</p>	<p>1 department.</p> <p>2 What do you mean by "fire combustion</p> <p>3 byproducts"?</p> <p>4 A. I mean either soot or smoke that was --</p> <p>5 the photos indicate that some -- there was some</p> <p>6 combustion byproduct -- deposition on the</p> <p>7 cobwebs, because they were around the electrical</p> <p>8 box. And the smoke was visible because it</p> <p>9 was -- there was particles that were obscuring</p> <p>10 the ability to see clearly from where the</p> <p>11 photograph was taken and the object they were</p> <p>12 attempting to take. So it was visually obscured.</p> <p>13 Q. Okay. And that would be -- the smoke</p> <p>14 would be obscuring their vision?</p> <p>15 A. The smoke would be obscuring their vision.</p> <p>16 And then there's, you know, evidence of</p> <p>17 deposition in other parts of the photo. So we</p> <p>18 have both of those concurring [sic]. And that</p> <p>19 would suggest combustion by -- byproducts were</p> <p>20 present.</p> <p>21 Q. And you state that "These need to be</p> <p>22 cleaned or removed without regard to past history</p> <p>23 of the particle deposition, if any."</p> <p>24 Now, as far as what needs to be cleaned,</p> <p>25 what needs to be removed, you're not providing</p>
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<p>1 A. (Continuing) Page 2.</p> <p>2 Q. Uh-huh.</p> <p>3 A. Okay.</p> <p>4 Q. All right. Looking at the last sentence</p> <p>5 of that first paragraph, "Detection of</p> <p>6 contaminants resulting from the fire event</p> <p>7 indicate the need for remediation activities."</p> <p>8 Okay. Tell me what you mean by that.</p> <p>9 A. The deposit -- at least in the samples</p> <p>10 that I had that were -- areas where there was</p> <p>11 heavy levels of soot. And that would be the</p> <p>12 samples 14, 17. And then we had the bulk samples</p> <p>13 that were listed later.</p> <p>14 They were elevated enough behind -- beyond</p> <p>15 background that they require some removal.</p> <p>16 And in this part, the contaminants I'm</p> <p>17 also referring to, does indicate a -- a -- fungal</p> <p>18 related, as well, even though it's not</p> <p>19 specifically stated, because of the growth on the</p> <p>20 insulation, as well.</p> <p>21 Q. Okay. If you go down to the second</p> <p>22 paragraph, it says, "The photos and their</p> <p>23 testimony make it clear that fire combustion</p> <p>24 byproducts were present."</p> <p>25 And this is talking about the fire</p>	<p>1 testimony today about what specifically needs to</p> <p>2 be done as far as cleaning or removing, are you?</p> <p>3 A. I was --</p> <p>4 MR. SCOTT: Object to form.</p> <p>5 A. (Continuing) I was providing, I believe,</p> <p>6 later on, that -- there's some statements about</p> <p>7 the porous materials that have soot on them.</p> <p>8 That would be paragraph 3.</p> <p>9 Q. Okay. The last sentence of that paragraph</p> <p>10 we were just looking at.</p> <p>11 "Testimony of the owner and occupants of</p> <p>12 the building reveal no past contamination of the</p> <p>13 loss location with combustion byproducts."</p> <p>14 Now, tell me what you -- what a combustion</p> <p>15 byproduct is.</p> <p>16 A. A combustion byproduct -- at least in what</p> <p>17 I can see, is -- and it -- I think the --</p> <p>18 probably the term would be "uncontrolled</p> <p>19 combustion." It would be -- let's say, particles</p> <p>20 that are produced after some form of combustion.</p> <p>21 Does that make it clear?</p> <p>22 Q. And when you mean combustion -- I mean,</p> <p>23 can that be a combustion engine or is that just</p> <p>24 talking about a fire? What are you talking</p> <p>25 about?</p>

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<p>1 A. In this case I'm primarily talking about a</p> <p>2 fire. I'm not talking -- because I'm -- I'm</p> <p>3 talking about activities that occurred on the</p> <p>4 event of the fire and -- and -- and post. I'm</p> <p>5 not concerned about the activities that occurred</p> <p>6 prior to that.</p> <p>7 Q. But you agree that a combustion engine can</p> <p>8 cause con -- contamination?</p> <p>9 A. Of -- a -- a combustion engine</p> <p>10 primarily -- in particular, let's say, a</p> <p>11 diesel -- would -- does produce a particle --</p> <p>12 particles as part of their combustion process.</p> <p>13 Q. And then we talked about paragraph 3</p> <p>14 there, where you do talk about cleaning and about</p> <p>15 replacement, but, now, you are not an expert on</p> <p>16 cleaning surfaces or a restoration expert, are</p> <p>17 you?</p> <p>18 MR. SCOTT: Object to the form.</p> <p>19 A. (Continuing) I'm not an expert</p> <p>20 specifically -- well, let's see. I get involved</p> <p>21 with remediation. Most of my remediation</p> <p>22 expertise has been related to fungal remediation.</p> <p>23 The opinion on this one is looking at the</p> <p>24 samples that I received, looking at the smoke</p> <p>25 intertwined with the -- with the fibers, and --</p>	<p>1 of a caveat in that if they can't remove them,</p> <p>2 there's other ways of doing it.</p> <p>3 Q. Okay. And I --</p> <p>4 A. So I don't know how long they were in</p> <p>5 there.</p> <p>6 Q. Do you think that it would have been</p> <p>7 better, as far as the air quality, if all of the</p> <p>8 items that were damaged -- if they had been</p> <p>9 removed immediately from the property?</p> <p>10 A. I think that would have been prudent.</p> <p>11 Q. Okay.</p> <p>12 A. I think -- depending upon where they had a</p> <p>13 place to store them. If they were leaving them</p> <p>14 outside, then no.</p> <p>15 Q. Okay. I'm looking kind of in the middle</p> <p>16 of the paragraph. It says, "All soot must be</p> <p>17 removed from HVAC system, including ductwork, and</p> <p>18 replacement may be only" -- "may be the only</p> <p>19 viable option."</p> <p>20 You don't know specifically what needs to</p> <p>21 be done with the HVAC. You would rely on a</p> <p>22 qualified HVAC contractor or restoration</p> <p>23 contractor for that, correct?</p> <p>24 MR. SCOTT: Object to the form.</p> <p>25 A. (Continuing) I would rely on the national</p>
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<p>1 and trying -- and thinking through how you would</p> <p>2 extract the smoke from the intertwined fibers in</p> <p>3 the fiberglass, and thinking that that would be a</p> <p>4 very difficult task.</p> <p>5 Q. And this was the second fire that you had</p> <p>6 provided an opinion on, is that correct?</p> <p>7 Did you tell me that?</p> <p>8 A. I've got to go back.</p> <p>9 That -- the other one was the one at the</p> <p>10 University for my other work.</p> <p>11 Q. Okay.</p> <p>12 A. But, let's see. And that was not for a</p> <p>13 legal case. That was for a remediation.</p> <p>14 Q. Okay. So this was a -- your first legal</p> <p>15 case involving a fire?</p> <p>16 A. Correct. That would be the correct term.</p> <p>17 Q. Now, in the next paragraph, which is just</p> <p>18 a portion of the paragraph, it says, "A proper</p> <p>19 remediation of the air, as affected by soot</p> <p>20 deposition, will first require the removal of the</p> <p>21 contents in the building."</p> <p>22 Do you know how long the contents stayed</p> <p>23 in the building, without being removed?</p> <p>24 A. I -- I don't know. And I think the</p> <p>25 additional words on there are -- are a little bit</p>	<p>1 association of duct cleaners guidelines.</p> <p>2 The other part would be -- and I'm not</p> <p>3 aware of the specific construction of -- of the</p> <p>4 ductwork, whether it's specifically metal or if</p> <p>5 it has an interior fiberglass lining. If it has</p> <p>6 an interior fiberglass lining, then it would --</p> <p>7 the -- it would be definite removal of that. And</p> <p>8 then it's the question of whether it's more</p> <p>9 cost-effective to replace the ductwork or remove</p> <p>10 the interior. And there is also safety</p> <p>11 consideration with that.</p> <p>12 Q. But, again, to make that decision, you</p> <p>13 would rely on the HVAC contractor or restoration</p> <p>14 contractor?</p> <p>15 MR. SCOTT: Object to the form.</p> <p>16 A. (Continuing) Typically those -- when I</p> <p>17 worked at it -- with respect to mold, is a joint</p> <p>18 discussion between myself and the person that's</p> <p>19 doing the remediation. I'll offer suggestions.</p> <p>20 And they will -- will both use their various</p> <p>21 expert -- areas of expertise to -- to re -- to</p> <p>22 end up with the best solution for the particular</p> <p>23 circumstance.</p> <p>24 Q. But, again, for you to make that</p> <p>25 determination, you would want to consult with</p>

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<p>1 them?</p> <p>2 A. I would want to consult with them, yes.</p> <p>3 Q. And as far as providing an opinion without</p> <p>4 consulting with them, you would not do that</p> <p>5 today?</p> <p>6 A. Not without more information.</p> <p>7 Q. Okay. And I think I understand -- at</p> <p>8 least in my ability -- FBS is -- and -- and your</p> <p>9 two-step analysis that you do, basically</p> <p>10 is -- the samples are collected. They are sent</p> <p>11 to you. You give them really a -- a thumbs-up or</p> <p>12 a thumbs-down as to whether they should proceed</p> <p>13 with making a determination as to what the actual</p> <p>14 soot or -- or fungal issues are, but you can say</p> <p>15 yes, they are present or no, they are not</p> <p>16 present.</p> <p>17 And then it goes into the next phase,</p> <p>18 which is where they use another contractor like</p> <p>19 MicroVision to do additional samples. And then</p> <p>20 they can, with higher technology and different</p> <p>21 things, be able to make a more thorough analysis?</p> <p>22 A. That's pretty close to being correct.</p> <p>23 Q. Okay.</p> <p>24 A. I provide them the information. And then</p> <p>25 they do the interpretation of the results that I</p>	<p>1 firefighters' reports?</p> <p>2 A. Yeah, I'm talking about the firefighters</p> <p>3 saying that when they first arrived, it took them</p> <p>4 a significant amount of time find the source of</p> <p>5 the fire. And I believe they arrived sometime,</p> <p>6 like, at 2:00 in the morning. And then at around</p> <p>7 7:00 in the morning there was still smoke</p> <p>8 present. And then they had to work -- I can't</p> <p>9 remember if they started at 2:00 or -- or</p> <p>10 whatever, but then they had to mechanically</p> <p>11 ventilate the space so that they could actually</p> <p>12 remove the -- the -- the -- the smoke, so they</p> <p>13 could see and investigate further as to the cause</p> <p>14 of the damage.</p> <p>15 Q. Okay. I'm going to show you -- this</p> <p>16 is -- this is Mr. Irmiter's second report. And</p> <p>17 this is where I understand he cut and pasted the</p> <p>18 information from EMSL.</p> <p>19 A. Uh-huh.</p> <p>20 Q. Some of their report findings.</p> <p>21 A. Uh-huh.</p> <p>22 Q. And I think the question that I had asked</p> <p>23 before to you was, all three phase-four report</p> <p>24 labs reviewed showed specific areas of soot</p> <p>25 contamination.</p>
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<p>1 give them. And then if they have questions, they</p> <p>2 will contact me.</p> <p>3 Does that clarify it for you?</p> <p>4 Q. That's -- that's great.</p> <p>5 And I apologize if I asked this question</p> <p>6 to you before. I may be getting confused with</p> <p>7 FBS. But has FBS ever sent you samples and you</p> <p>8 did not find any soot or char or fungal --</p> <p>9 whatever they were investigating -- that you did</p> <p>10 not find those so that you did not go to phase</p> <p>11 four?</p> <p>12 A. Many times.</p> <p>13 Q. In the next paragraph it begins, "All</p> <p>14 three phase-four lab reports show specific areas</p> <p>15 of soot contamination."</p> <p>16 Now, is that also considering EMSL, too?</p> <p>17 A. I don't know if that was or not. I'd have</p> <p>18 to refresh my memory on looking at EMSL's report.</p> <p>19 Q. And then it says, "Combining the</p> <p>20 eyewitness reports with the lab results, I</p> <p>21 conclude that specific areas of elevated soot</p> <p>22 contamination are due to the fire event of</p> <p>23 February of 2015, with the eyewitness reports,</p> <p>24 with the lab results."</p> <p>25 Are you talking about the -- the</p>	<p>1 Did the EMSL report show soot</p> <p>2 contamination?</p> <p>3 A. Yes, they did. On sample 22.</p> <p>4 Q. On -- as far as the other ones that he cut</p> <p>5 and pasted within his report, did they show soot</p> <p>6 contamination?</p> <p>7 A. The other ones are nondetectable.</p> <p>8 Sample 22 did.</p> <p>9 Q. All right. So 22 did. And that's the</p> <p>10 only one out of -- at least what he's shown</p> <p>11 here -- 21 through -- what's the number down</p> <p>12 there?</p> <p>13 A. 28.</p> <p>14 Q. -- 28. So 21 through 28 samples. Only</p> <p>15 one of those samples showed soot?</p> <p>16 A. That is correct, yes, on that report.</p> <p>17 Q. And then your -- the last paragraph. You</p> <p>18 have, "Removal of porous material is preferred to</p> <p>19 any attempts to clean it, as cleaning of porous</p> <p>20 material is not possible, the labor costs are</p> <p>21 high, and the end result is not assured."</p> <p>22 And have you ever tried to do any cleaning</p> <p>23 of porous materials?</p> <p>24 A. I have with respect to fungal. And it</p> <p>25 hasn't been -- it hasn't been -- it hasn't gone</p>

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<p>1 well. And so I -- I'm taking an analogy from the</p> <p>2 work that I've done with that to -- related</p> <p>3 to -- to fire material in that the particles are</p> <p>4 fairly small, they get immeshed in the porous</p> <p>5 material and it's difficult to take one out of</p> <p>6 another and do it successfully.</p> <p>7 MS. CARSON: Oh, I got bumped to</p> <p>8 tomorrow.</p> <p>9 (Recess from 2:17 p.m. to 2:17 p.m.)</p> <p>10 Q. (By Ms. Carson, continuing) Okay. I'm</p> <p>11 looking at the last paragraph there.</p> <p>12 A. Sure.</p> <p>13 Q. It says -- this is on the next page.</p> <p>14 Okay?</p> <p>15 A. Sure.</p> <p>16 Q. "Post remediation evaluation would be</p> <p>17 recommended."</p> <p>18 So after whatever the -- the work is done,</p> <p>19 you would recommend going back in and doing</p> <p>20 additional testing?</p> <p>21 A. Yeah. I -- I've -- I've done this with</p> <p>22 the investigation that we had at the -- the U</p> <p>23 with -- particularly with respect to the smoke.</p> <p>24 And I often do it after a -- a mold remediation,</p> <p>25 just to make sure that people were thorough and</p>	<p>1 porous materials. I think everything was</p> <p>2 removed, though.</p> <p>3 Q. Do you know whether or not you've ever had</p> <p>4 your testimony challenged before?</p> <p>5 A. Yes, I have. As -- and it was</p> <p>6 unsuccessful. It was during a mold testing --</p> <p>7 Q. Okay.</p> <p>8 A. -- they had.</p> <p>9 Q. And they were unsuccessful in trying to</p> <p>10 disqualify your testimony?</p> <p>11 A. That's correct.</p> <p>12 Q. Have you ever been excluded as an expert</p> <p>13 from anyone, any case?</p> <p>14 A. Not that I have been aware of.</p> <p>15 Q. Are you -- have you had an opportunity to</p> <p>16 review the report of Doug Byron at FAST? Lab</p> <p>17 report?</p> <p>18 A. Yes. That was sent to me and I reviewed</p> <p>19 it.</p> <p>20 Q. Are you critical at all of Doug Byron, his</p> <p>21 finding?</p> <p>22 A. I'm going to think about that a little</p> <p>23 bit.</p> <p>24 I'm not sure if I would agree with his --</p> <p>25 his interpretation of the results. I -- I -- I</p>
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<p>1 meticulous.</p> <p>2 Q. But you've only had one other smoke,</p> <p>3 correct?</p> <p>4 A. That's correct, yeah.</p> <p>5 Q. And with the fungal, where you were trying</p> <p>6 to clean a porous material, with that you --</p> <p>7 you've not been able to clean it, but you've</p> <p>8 never tried to clean a porous material for smoke</p> <p>9 or soot, correct?</p> <p>10 A. The ones that I've been involved with,</p> <p>11 the -- the area that had to be cleaned, there</p> <p>12 wasn't any porous materials as the building was</p> <p>13 under construction.</p> <p>14 Q. That's with the fire?</p> <p>15 A. That's with the fire, yes.</p> <p>16 Q. But as far as -- you've never tried to</p> <p>17 clean a porous material for smoke or soot?</p> <p>18 A. I have not.</p> <p>19 And I guess I should clarify as my memory</p> <p>20 comes back. I've actually been involved with</p> <p>21 two. There was another electrical fire in</p> <p>22 another building that we had to do a cleanup on,</p> <p>23 as well.</p> <p>24 And then that one -- I don't believe there</p> <p>25 were any -- I don't recall if there were any</p>	<p>1 think that's probably where it would be at.</p> <p>2 I -- I'm not familiar with all the specific type</p> <p>3 of testing that he does.</p> <p>4 Q. And so you don't know whether or not his</p> <p>5 testing is more in line to your testing or more</p> <p>6 in line to MicroVision's testing?</p> <p>7 A. It would be more in line to MicroVision's</p> <p>8 testing than to mine, yes.</p> <p>9 Q. And would you defer to the testing that</p> <p>10 MicroVision did, the type of testing, versus your</p> <p>11 testing?</p> <p>12 A. I think they are complimentary.</p> <p>13 Q. Okay. Basically yours would be a -- kind</p> <p>14 of a -- a phase one or -- or how you start, but</p> <p>15 then their testing is going to be more in-depth</p> <p>16 and be able to use more high-definition, that</p> <p>17 type of material?</p> <p>18 A. That is correct, yes.</p> <p>19 MS. CARSON: I may be finished. Give</p> <p>20 me just two seconds. Okay?</p> <p>21 (Brief discussion held off the record.)</p> <p>22 MS. CARSON: We can go back on.</p> <p>23 Q. (By Ms. Carson, continuing) As far as your</p> <p>24 finding, do you feel that the -- that based on</p> <p>25 your findings, that the employees of First</p>

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1 State -- that -- that this information that	1 MS. CARSON: That's it.
2 you've discovered poses a health hazard to them?	2 (Deposition concluded at 2:24 p.m.)
3 MR. SCOTT: Object to the form.	3
4 A. (Continuing) I -- I am not sure if I'd be	4
5 able to make that medical determination.	5
6 Q. Okay.	6
7 MS. CARSON: I think those are all	7
8 the questions I have for you.	8
9 MR. SCOTT: I just have one or two	9
10 follow-ups.	10
11 THE WITNESS: Sure.	11
12 EXAMINATION	12
13 BY MR. SCOTT:	13
14 Q. Earlier in your testimony there were some	14
15 questions related to the HVAC --	15
16 A. Yeah.	16
17 Q. -- apparatus?	17
18 A. Uh-huh.	18
19 Q. And I think at the -- during that	19
20 conversation it had -- you had indicated that you	20
21 want to consult with the HVAC person --	21
22 A. Yes.	22
23 Q. -- to confirm or deny recommendation as to	23
24 what -- trying to lay the background here of my	24
25 next question -- confirm or deny recommendation	25
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1 as to replacement?	1 REPORTER'S CERTIFICATE
2 A. Correct, yes.	2 STATE OF WISCONSIN
3 Q. Would -- would the information that you'd	3
4 be asking for be re -- would it matter -- would	4 I hereby certify that I reported the
5 one of the things you'd be asking for -- related	5 deposition of NEIL G. CARLSON, on April 7, 2017,
6 to the insulation type of the ductwork?	6 in Minneapolis, Minnesota, and that the witness
7 A. Yes.	7 was by me first duly sworn to tell the whole
8 Q. All right. And so assuming -- assuming	8 truth;
9 that the interior of the ductwork is -- is	9 That the testimony was transcribed by me
10 fiberglass lined, would that be the information	10 and is a true record of the testimony of the
11 that you would need to then offer an opinion on	11 witness;
12 that matter?	12 That the cost of the original has been
13 A. Yes, that would be one of the pieces of	13 charged to the party who noticed the deposition,
14 information, yes.	14 and that all parties who ordered copies have been
15 Q. Okay. And if it is fiberglass lined, what	15 charged at the same rate for such copies;
16 would your recommendation be?	16
17 A. I would recommend that it would be	17 That I am not a relative or employee or
18 removed, if it's -- interior fiberglass lined.	18 attorney or counsel of any of the parties, or
19 Well, if they had exterior lining, as well,	19 relative or employee of such attorney or counsel;
20 because you're going to have to -- it -- in my	20
21 opinion, based on what I'm looking at, it would	21 That I am not financially interested in
22 be incredibly difficult to -- to extract the soot	22 the action and have no contract with the parties,
23 particles from the interwoven fiberglass	23 attorneys, or persons with an interest in the
24 mechanically. Difficult.	24 action that affects or has a substantial tendency
25 MR. SCOTT: That's all I have.	25 to affect my impartiality.
	26 WITNESS MY HAND AND SEAL THIS 12th of
	27 April, 2017.
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**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TENNESSEE
EASTERN DIVISION**

NORTHEND INVESTORS, LLC,

Plaintiff,

vs.

No. 1:16-cv-01137 JDB-egb
JURY DEMANDED

SOUTHERN TRUST INSURANCE COMPANY,

Defendant.

NOTICE TO TAKE DEPOSITION OF NEIL CARLSON

PLEASE TAKE NOTICE that the attorney for the defendant, SOUTHERN TRUST INSURANCE COMPANY, will on April 7, 2017, commencing at 1:00 P.M. at Paradigm Reporting, located at 24 East Forth Street, Walsh & Gaertner Building, St. Paul, Minnesota 55101, take the deposition of Neil Carlson whose testimony is sought regarding all matters, not privileged, which are relevant to the subject matter involved in this cause.

Deponent is requested to bring to the deposition the documents listed in *Exhibit A* which is attached hereto and incorporated herein by reference as if set out verbatim below. Please take notice that counsel will object to any documents not produced being introduced at trial.

The deposition will be taken before a registered court reporter or some other official duly authorized to administer oath. Such deposition will be taken on oral testimony and will continue from day to day until completed.



EXHIBIT A

For each person identified as an expert witness to be called at trial, please produce the following:

1. All documents prepared by the expert;
2. All documents sent to each expert by you or anyone on your behalf;
3. All documents relied upon by each expert;
4. All documents used, consulted, or reviewed by each expert;
5. All documents setting forth or referring to the compensation agreement between you and each expert;
6. All documents used, relied upon, consulted, or reviewed by each expert in answering expert witness interrogatories;
7. All documents that have been or will be shown to each expert before or during trial testimony;
8. All documents, including a current Curriculum Vitae used to establish each expert's qualifications for trial purposes;
9. All exhibits to be used as a summary of or support for each opinion of the expert;
10. A list of all publications the expert has authored within the past ten years;
11. A list of any other case or cases in which the expert has testified as an expert at trial or by deposition within the past five years;
12. All written reports stating the substance of the facts about which the expert is expected to testify; and
13. All written reports which state or contain the substance of the opinion(s) which the expert is expected to give.

January 29, 2017

Brandon McWherter
Gilbert Russell McWherter Scott & Bobbitt, PLC
341 Cool Springs Blvd., Ste 230
Franklin, TN 37067

Re: Address - 15365 Highway 22 North, Lexington, TN
Date of Loss - February 4, 2015

This is my expert report on the above matter. After previously providing analysis of samples taken from the loss location, I was asked to opine, from an industrial hygienist perspective, concerning the proper scope of repairs concerning the loss that occurred on February 4, 2015.

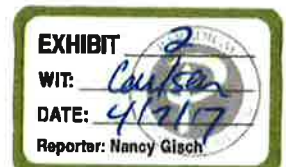
Qualifications

I have a Master's of Science in Environmental Health from the University of Minnesota in 1988. I have been a CIH since 1994 and President of N.G. Carlson Analytical since March of 1996. As part of that company I have been involved in over 2,500 indoor air/fungal investigation doing investigation and analysis. I developed a phase one protocol for soot analysis for FBS on September of 2011. The techniques were tested by sampling soot and char produced by burning materials in the lab. I have conducted on site investigation of a fire damaged area using these techniques and provided laboratory analysis for FBS field investigations. My further qualifications are summarized in the attached CV.

Basis of Opinions, Data, and Information Considered

In reaching my opinions, I relied on my education, training, experience, and background, as well as the following items which I have reviewed:

1. Forensic Building Science, Inc. report, dated October 6, 2015
2. Forensic Building Science, Inc. photo log, dated September 3, 2015
3. Forensic Building Science, Inc. repair estimate
4. Forensic Building Science, Inc. sample location sketch, dated September 3, 2015
5. N.G. Carlson Analytical, Inc. sample results, dated September 12, 2015
6. Forensic Building Science, Inc. report, dated September 16, 2016
7. Forensic Building Science, Inc. photo log, dated August 9, 2016
8. Microvision Laboratories, Inc. lab report, dated September 7, 2016 and chain of custody doc
9. EMSL Analytical, Inc. lab report, dated April 21, 2016 and chain of custody doc
10. EMSL Analytical, Inc. lab report, dated July 14, 2016 and chain of custody doc



11. Declaration of Captain David McCrury
12. Declaration of Daniel Renfro
13. Declaration of Tim Parker
14. Forensic & Scientific Testing, Inc. report and other documentation
15. Deposition of Bob Sebastian
16. Deposition of Jerry Craig
17. Deposition of Jon Ayers
18. Deposition of Lisa McKee
19. Discussions with Tom Irmiter at Forensic Building Science, Inc.

Summary of Opinions

Upon review of the above documents and based upon my knowledge, expertise, training, and experience, the following is my report of the necessary scope of remediation after the loss, specifically as it relates to my expertise as an industrial hygienist. I was asked to review the various materials listed above, including the lab analysis conducted by my company and other third party laboratories, and to opine regarding the presence of combustion by-products, including soot, at the subject property and the source of same. Forensic Building Science collected surface and air samples from the property that were sent to qualified laboratories, including my own, for analysis. Detection of contaminants resulting from the fire event indicate the need for remediation activities.

The photos and declarations of the fire department employees on the scene describe a building filled with dense smoke. The smoke was so thick that it made it difficult for them to locate the source of the fire. Smoke was still present the following morning. The photos and their testimony make it clear that fire combustion by-products were present and deposited on surfaces and materials during and after the fire. These need to be cleaned or removed, without regard to past history of particle deposition, if any. Based on the inner partition wall sampling by FBS and the open atmosphere construction of the building, some of this soot also deposited into wall cavities, breached blanket insulation, and behind insulation onto the metal building. Testimony of the owner and occupants of the building reveal no past contamination of the loss location with combustion by-products.

Photos of the vinyl-backed wall insulation show many breaks and cuts in the surface of the vinyl-backed insulation. Samples taken from the insulation had high levels of soot-like particles. This insulation is porous and cleaning the soot from this material is not feasible. Replacement of the affected insulation is recommended and mandatory for a proper remediation of the facility. Cleaning other porous materials with deposited soot such as carpet and fabrics is difficult, if not impossible. Replacement is the best option, and is recommended here. This should include all insulation in the warehouse including any that is trapped between the metal siding, metal roof panels, and the purlins and girts.

Proper remediation of the areas affected by soot deposition will first require the removal of the contents in the building, or if removal is not possible, hard surface contents can be cleaned

via wiping with a liquid detergent cleaner, dried, and then wrapping same in plastic or poly liner materials to prevent recontamination during additional remediation activities. After the contents are removed or cleaned/protected, all porous materials contaminated with soot should be removed and replaced. Porous materials such as insulation, acoustical drop ceiling tiles, or carpets should be removed and discarded according to applicable disposal regulations. Although some of those materials in the office section may have been cleaned, the presence of soot contamination in lab samples taken after cleaning indicates the materials were not cleaned appropriately or have been re-contaminated as a result of cross-contamination. All soot must be removed from HVAC system, including ductwork, and replacement may be the only viable option. A qualified HVAC contractor and/or restoration contractor should be consulted. Hard, non-porous materials may be cleaned in a manner that prevents the cleaned areas from being re-contaminated with soot using top down methods and HEPA filtered negative pressurization. Assure that the negative pressure isolation does not cause problems with back drafting of gas-fired or other combustion related devices in the building. Non porous smooth surfaces can be cleaned by wiping down the surface and discarding the wipes in accordance with applicable regulations. Dry or wet wipes with liquid detergent or approved equivalent such as microfiber cloths can be used. PPE for abatement requires skin and respiratory protection. Typical PPE includes: Tyvek suit, gloves eye protection and respiratory protection with HEPA filters. Contractor must follow OSHA PPE and respiratory protection standard.

FBS uses a two stage sampling protocol for soot/char analysis. The initial phase one analysis uses tease tapes, swabs, bulk samples and Air-o-cell cassette samples to provide a preliminary screen for the presence of soot or char and fungal organisms often present if water was used to suppress a fire. If areas with soot like particles area are identified using visual light microscopy, a phase 4 analysis is used to combining chemical analysis with higher resolution microscopy to confirm the presence of combustion by-products.

All three phase 4 lab reports reviewed show specific areas of soot contamination. Other areas in the space in the phase 1 and phase 4 analysis showed other areas with little or no contamination. Combining the eye witness reports with the lab results, I conclude that specific areas with elevated soot contamination are due to the fire event on February of 2015.

The protocol for soot and wall cavity remediation noted in Tom Irmiter's report will allow the warehouse and office space to be restored back to its pre-fire condition. Removal of porous material is preferred to any attempts to clean it as cleaning of porous material is not possible, the labor costs are high, and the end result is not assured.

Useful References:

The EPA has reviewed the health effects of fire combustion by-products.

<https://www.epa.gov/burnwise/wood-smoke-and-your-health>

This article outlines health effects from small soot particles and highlights the difficulty of cleaning materials contaminated with soot as part of an insurance claim.

http://www.whiteandwilliams.com/media/alert/107_Sui-Generis-08-09-12.pdf

This article offers information on the health effects of fire combustion particles and some techniques for cleaning art work that may be applicable to some items of higher value.

<http://www.conservation-us.org/docs/default-source/aic-news/2010-09-Sept-AICNews.pdf>

Post remediation evaluation would be recommended. After top to bottom cleaning of non-porous surfaces and removal of porous surfaces, efforts should be made to verify no contamination remains through additional wipe and vacuum surface testing. Swabs or tease tapes of suspected discolored material also can be analyzed through visual microscopy for level one screening. If suspected particles of combustion are identified they can then be analyzed for level 4 screening. If testing reveals contamination is still present, the process should be completed. After testing results confirm no additional contamination, the new porous surfaces should be installed and the space returned to its original pre-loss condition.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Neil G. Carlson".

Neil G. Carlson, MS CIH

President N.G. Carlson Analytical, Inc.

Neil G. Carlson

216 16th Ave SW
New Brighton, MN 55112

Phone 651-628-0498
E-mail carls001@umn.edu

Professional experience

Public Health Specialist [July, 1989-Present]
Department of Environmental Health and Safety

University of Minnesota
Minneapolis, MN

Coordinated indoor air program. Developed Standard Operating Procedure for Fungal Abatement with Facilities Management. Provided training on fungal awareness to each Facilities Management Zone, the Real Estate Office and Building Codes. Served as team lead and functional supervisor for indoor air quality program and WET Force report. Reviewed and provided feedback on memos. Provided work direction. Assisted in employee evaluation.

Developed U of MN office ergonomics program. Provided training to departments and outstate campuses on office, kitchen, laboratory and agricultural ergonomics. Conducted ergonomic evaluations in offices, labs, kitchens, custodial and agricultural settings. The program received a CSHEMA award for a unique and innovative safety program.

Co-chair and member of U of MN AFSCME/Management Committee on Office Ergonomics (1992 to Present). The committee received an Award of Merit from the Twin Cities Labor Management Council.

Assisted with certification of BSL-3 Facilities on the St. Paul Campus.

Incident commander for chemical spill response and floods.

Chaired Departmental Web Committee. Served as principle content expert for DEHS Web sites on Ergonomics and Indoor Air Quality

Assisted with plan reviews, chemical monitoring, animal allergen sampling and waste anesthetic gas monitoring.

Received access achievement award from U of MN Disability Services in October 2011.

Received Star performer Award University Services December, 2015.

Safety Technician [July 1988- June, 1989]
Department of Environmental Health and Safety

University of Minnesota
Minneapolis, MN

Employee right to know program coordinator, monitored chemical exposures, Investigated and resolved indoor air complaints, Responded to chemical spills.

Environmental Microbiology Lab Aid [1987 – 1988] University of Minnesota Division of Occupational Health and Safety

Editor-in-Chief [1985 – 1986] Morris Weekly, U of MN Morris, campus student newspaper. Supervised ten employees. Developed budget. Served as staff photographer. Assisted with news layout, news reporting, proof reading and assigning news stories.

News Editor [1984 – 1985]– Morris Weekly, U of MN Morris, campus newspaper

Teaching Assistant [1984- 1986] General Psychology, University of Minnesota, Morris.

Natural Science Judge at County Fairs[1984 - 1986] Minnesota Extension Service

Education

September 1982 – June 1986 University of Minnesota,
Morris [City, State]

Major: Biology Minor: Chemistry

- Additional coursework in Computer programming, Environmental Geology, Speech Communications, Theatre, Movies and Choreography.
- Truman Scholarship nominee

September 1986 – June 1988 University of Minnesota, Twin
Cities [City, State]

Master of Science

- Completed coursework in General Environmental Health with emphasis in Industrial Hygiene, Toxicology, Injury Prevention, Health Risk Evaluation, Scientific Writing and Environmental Health Administration.
- Interned at Community Health Service in Marshall, MN. Assisted the sanitarian. Conducted Agricultural Health and Safety injury survey. Provided occupational health monitoring in agricultural environment. Developed radon survey for the four county area.
- Completed a plan B study on lead levels in Radiator Repair shops

September 1991 – June 1994 University of Minnesota, Twin Cities
Additional Graduate coursework in Ventilation, Particles and Health, Intro to Human Factors Engineering, Indoor Air Quality, Building Science, Biochemistry, Mycology, Statistics and Medical Microbiology.

Publications
Poster Sessions
Presentations

Publications:

High levels of carbon monoxide are produced by electro-cautery of tissue during laparoscopic cholecystectomy, D.S. Beebe, H. Swica, **N. Carlson**, R.J. Palahniuk, R.L. Goodale (1993) *Anesth. Analg.* Vol. 77: p. 338 – 341.

Managing water infiltration in buildings, A. Quraishi, **N.G. Carlson**, (1999) *Public Risk*, May-June, p. 38-39.

Ventilation requirements in a retail store, D.T. Grimsrud, B.B Bridges, B.B., **N.G. Carlson**, D.E. Hadlich (1999) *Indoor Air 99 Proceedings*, Vol. 2. p. 332 – 337.

Floor Coverings for Basements and Below-grade Space, D. Ginther, W. Olson, **N. Carlson** (1999) U of MN Extension Service.

Category I: Antimicrobial Pesticides – Pesticide Applicator Safety Education Manual: 2010 Indoor Mold, HVAC, and Cooling Towers, N. Carlson, R. Fearer, D. Herzfeld, P. Huelman, K. Norlien, K. Sargent, J. Spitzmueller (2010) University of Minnesota Extension. 140p.

Application of the standard 62.1-2007 indoor air quality procedure to retail stores, B. Bridges, T. Springman, N. Carlson, S. Williams, D. Grimsrud (2013) Jan. *ASHRAE Transactions* 119:265-273.

A comprehensive plan to reduce losses from water damage at a University, NG. Carlson, K. Mullane, (2014) *Journal of Chemical Health and Safety*, Vol 21: Issue 6. p 28-33.

Poster sessions:

Carbon Monoxide Monitoring of Parking Lots. C. Colton, C Bates, T. Smith, **N. Carlson**, L.M. Brosseau. AIHce Salt Lake City Utah, May, 1991.

Assessment Methods for Mold Remediation. **N.G. Carlson**, D.E. Errede, J.L. Lauer, A.J. Streifel, AIHce Anaheim CA, May, 1994.

Quality Assurance Methods Used During the Remediation of Fiberglass Lined Ductwork with Fungal Contamination. **N.G. Carlson**, A.J. Streifel, AIHce Washington, DC – May, 1996.

Anatomy of a Non-viable Fungal Problem. A. Quraishi, **N.G. Carlson**, Third International Conference on Mycotoxins and Health, Saratoga Springs, NY – September, 1998.

A Method to Evaluate the Cleaning Effectiveness and Airborne Particle Generation of Vacuum Cleaners, C. Henckel, A. Quraishi – **N. Carlson**, A. Streifel, AIHce, Orlando, FL- May, 2000.

Effects of Various Control Measures on the Concentrations of Airborne Laboratory Mouse Urine Proteins – R.M. Burton, V. Ramachandran, M. Austin, **N. Carlson**, AIHce Indianapolis, IN – May 2012.

Paper presentation(co-author):

Anesthetic Gas Equipment Surveillance and Maintenance at a University Hospital, A.J. Streifel, E. Oberg, **N. Carlson**, AIHce, Kansas City, Missouri – May, 1995.

VAV/Manifolded Exhaust Systems Issues and Observations. M. Austin, **N. Carlson**, AIHce Washington, DC – May, 1996.

Controlling Exposure to Allergens in an Insect Rearing Laboratory -375. D. Errede, A. Streifel, N. Carlson, M. Nellis. AIHce 1998.

Refinement of Methods for Particle Analysis of Indoor Air in Health Care Facilities. A.J. Streifel, D. Errede, **N. Carlson**, AIHce 2001.

Can Fungal Infested Carpet be Saved -313. P. Ellringer, N. Carlson, AIHce 2001

Use of Infrared Imaging and Moisture Meters to Accurately Characterize Areas of Water Damage. **N. Carlson**, Podium Session PO119, 2008 AIHce in Minneapolis, MN June 3, 2008

Investigation of Appropriate Ventilation Rates for Retail Stores. David T. Grimsrud, Barry Bridges, Tony Springman. Neil Carlson, Scott Williams. Podium presentation. Indoor Air 2011 June 5-10, 2011 Austin, TX.

Presentations:

Indoor Air Quality Investigations/Mold Sampling Strategies, Big Ten Health and Safety Conference, Minneapolis, MN – September, 1992.

Several Analytical Procedures for Evaluation of Indoor Air Problems, Midwest Environmental Laboratory Conference, St. Paul, MN - February, 1994.

Microbial Contamination in Indoor Environments, Institute for Environmental Assessment, Brooklyn, Park. - February, 1994.

Environmental Illness in Indoor Air Quality, Minneapolis Retired Teachers Association, Minneapolis, MN - March, 1994.

Microbial Evaluation of Remediation Techniques Used for Water Damaged Carpet and Gypsum Board, CSHEMA, St. Lake City, UT – July, 1997.

What do Microbial Analysis Really Tell You, Institute for Environmental Assessment, Brooklyn, Park. - March, 1998.

Microbial Abatement: Learning from Case Studies, Institute for Environmental Assessment, Brooklyn, Park. - May, 1999.

Managing Water Infiltration into Buildings, Public Risk Managers Association, San Diego, CA - June, 1999.

Managing Water Infiltration into Buildings, Midwest EHS Big 10 RSO East Lansing, MI - September, 1999.

Avoiding Indoor Microbial Problems Through Better Maintenance and Construction, Institute for Environmental Assessment, Brooklyn, Park, MN - December, 1999.

Carpet Management – Water Intrusion and Clean-up, Department of Children Families and Learning, Carpet Maintenance Workshop – March, 2001.

Flooding: Strategies for Cleaning and Drying, U of MN Extension Service: Staff Development Conference, Minneapolis, MN – May, 2001.

Mold and Fungal Growth in Buildings, The Engineer's Club of Minneapolis, Minneapolis, MN - October, 2001.

Preventing Repetitive Stress Injuries in Office Environments, Minnesota Turf and Grounds Foundation, Minneapolis, MN – December, 2001.

Mold! Science vs. Speculation, Panel Discussion, F. Terracina, **N.G. Carlson**, as part of 2 day seminar: Indoor Air Quality and the Renaissance of the American Building, Institute for Environmental Assessment, Bloomington, MN – October, 2002.

Mold in housing, North Central Regional Conference on Mold, Lead Health Homes and Children's Environmental Health, Minneapolis, MN – October, 2002.

Dealing with Mold Issues, Bloomington Rental Housing Collaborative, Bloomington, MN – October, 2002

Evaluating the Case a Reality Check, **N.G. Carlson** and Philip Sieff, Minnesota Bar Association as part of 2 day seminar: Mold: Why Mold? Why now?, Minneapolis, MN - October, 2002.

Investigating and Interpreting Results, Minnesota Bar Association as part of a day long seminar: When Mold Takes Hold, Minneapolis, MN - April, 2003.

Remediation: It Can Be a Nightmare, Minnesota Bar Association as part of a day long seminar: When Mold Takes Hold, Minneapolis, MN - April, 2003.

Mold Awareness for Residential Appraisers, NAIFA regional conference, Hinkley, MN April, 2003.

Mold investigation and Mold Ecology, Midwest Hospital Engineers Association, St. Cloud, May, 2003.

Mold in Buildings, BWBR Architects, St. Paul, MN, May, 2003

Mold a Growing Problem on Campus, **N. Carlson**, S. Rafferty, K. Larson, National Association of College and University Attorneys 43rd Annual Conference, Minneapolis, MN - June, 2003.

Mold and insurance issues, Insurance Extravaganza, Prior Lake, MN – August, 2003

Mold Remediation, Hospital Infection for Construction and Infection Control Strategies, Midwest Hospital Engineers Association, Mahanomen, MN, September, 2003.

Moisture and Mold – Building and Human Impact, 9th Annual Indoor Air Quality Conference, Improving the Built Environment, Bloomington, MN - October 31, 2003.

Mold and IAQ investigation, Centerpoint Energy 2003 Technology Conference— November 5, 2003

Mold Recognition and Testing, 48th Annual Institute for Building Officials – St. Paul, MN - January, 2004.

Mold Recognition and IAQ, MN Building Officials Meeting, Maple Grove, MN October 20, 2004.

Health Effects of Indoor Air Quality, **N.G. Carlson** and William J. Angell, Minnesota Interior Design Legislative Action Committee – St. Paul, MN May 4, 2006.

Moisture related construction defects IR photos and particle ID, MN Indoor Air Association, Elk River, MN March 29, 2007.

Laboratory Ergonomics – web broadcast – National Laboratory Training Network – April 16, 2007.

Making Foreclosure Rehabs work, Habitat for Humanity, St. Cloud, MN – March 6, 2008.

Ailing Homes Breed an Industry Minnesota Bar Association, Minneapolis, MN - March, 2008.

Use of Infrared Imaging and Moisture Meters to Accurately Characterize Areas of Water Damage, N.G. Carlson, AIHce – Minneapolis, MN June 3, 2008.

SE Minnesota Flood Response, Minneapolis Chapter of the Indoor Air Association, St. Paul, MN June 23, 2008.

Making Foreclosure Rehabs work, Midwest Center for Occupational Health and Safety, Minneapolis, MN November, 2009.

Fungal investigation, Pesticide applicator refresher course, Chanhassen, MN November, 12, 2009.

Indoor Allergen, Minneapolis Chapter of the Indoor Air Association, St. Paul, MN December 1, 2009.

Here's to Your Environmental Health: Chemical Sensitivity and the Workplace, Jewish Family and Children's Service, Minnetonka, MN June 8, 2010.

Water Event Task Force Results – CSHEMA National meeting July, 2011.

Water Event Task Force Results – web broadcast – CSHEMA December, 2011.

Measuring Custodial Cleaning Effectiveness- UMS AIHA September 18, 2014.

Additional professional activities

President of NG. Carlson Analytical Inc. a corporation specializing in fungal identification and indoor air evaluation. (March 15, 1996 – Present)

AIHA Laboratory Safety Committee member (May 1993 – May 1995).

Developed website on School Indoor Air Quality working on a committee with American Lung Association, MN Health Department., Legislators, school district personnel and environmental consultants (1992).

Instructor at Annual Health Care and Construction Workshops – Minnesota Extension Service, Minneapolis, MN (1996 – 2001).

Instructor at Annual Recognition and Mitigation of Indoor Air Quality Issues – Midwest Center for Occupational Health and Safety, St. Paul/Minneapolis, MN - (2000 – 2002).

Instructor and program developer for at two and three day Mold Id Workshop – Midwest Center for Occupational Health and Safety (2002 – 2008).

Instructor and program developer for annual two day mold remediation workshop – Midwest Center for Occupational Health and Safety (2011 -2013)

Instructor and program developer of annual Mold and Mold Remediation Workshop – Minnesota Extension (Fall, 2002 and Fall, 2003).

Instructor and program developer for training on Office Ergonomics, Kitchen Ergonomics and Custodial Maintenance Ergonomics – Minnesota Dept. of Children Families and Learning. Provided training over 30 ergonomic workshops in Minnesota for employees of K-12 schools (1998 – 2003).

Instructor at series of four workshops on post flooding problems from the 1997 Minnesota Floods, Minnesota Extension Service, Winter, 1998.

Member of MN legislative task force with MDH and MDA on the use of antimicrobial pesticides in residences (2007)

Developed manual with the MN Dept of Ag and Health for the use of pesticides in building remediation for the Minnesota Department of Agriculture (2009 -2010)

Instructor and program developer for 1.5 day workshop on Mold identification – Midwest Center (2013)

Continuing Education

Hazardous Materials Level 1 (45 hours), Hennepin Technical Institute, May, 1989.

Chemical Exposures: Emergency Response and Management, Midwest Center for Occupational Health and Safety, St. Paul, MN, September, 1989.

AHERA Asbestos Abatement Project Designer, University of Wisconsin, Madison WI, March 1990.

Hazardous Materials Refresher Training, Minneapolis, MN, Spring Quarter, 1990.

Bioaerosol Monitoring Workshop – Phillip Morey, AIHce, Salt Lake City, May, 1991.

Indoor Air Quality Orientation for Public Officials, U of MN Extension, St. Paul, MN, January, 1992.

Environmental Illness – Assessment Methodology, American College of Allergy and Immunology, Chicago, IL, November, 1992.

Indoor Air Quality Symposium, AIHce Anaheim CA, May, 1994.

OSHA's Proposed Indoor Air Quality Rule, Midwest Center for Occupational Health and Safety, Minneapolis, MN - August, 1994.

Controlling Tuberculosis in the Workplace, Midwest Center for Occupational Health and Safety, Minneapolis, MN – August, 1994.

Mold in Residential Buildings, University of Minnesota Department of Design Housing and Apparel. St. Paul, MN – September, 1994.

Identification of significant species of *Aspergillus* and *Penicillium*, National Laboratory Training Network, San Antonio, Texas - August, 1995.

Cooling Towers and Legionnaire's Disease, MN Dept. of Health, Minneapolis, MN – March, 1996.

Introduction to Food and Airborne Fungi – University of Ottawa – June, 1997.

Emerging Infections Diseases, Midwest Center for Occupational Health and Safety, Minneapolis, MN September, 1997.

Current Issues Related In Indoor Air Quality, Midwest Center for Occupational Health and Safety, Minneapolis, MN September, 1997.

Health and Safety Issues related to the floods – Midwest Center for Occupational Health and Safety, Minneapolis, MN – September, 1997.

Third International Conference on Bioaerosols, Fungi and Mycotoxins, Saratoga Springs, NY – September, 1998.

Emergency Response Training – Incident Command – Minnesota Safety Council, St. Paul, MN- March, 1999.

Universal Design in the Workplace, U of MN Disability Services Minneapolis, MN – May, 1999.

On our soil – Responding to Terrorist Threats – PRIMA – San Diego, CA - June, 1999.

Combating Chemical and Biological Terrorism – Big 10 Radiation Safety Officers Conference - September, 1999.

Online Learning '99 and Performance Support '99, Lakewood Conferences, Los Angeles, CA – October, 1999.

Pitt on *Penicillium*, National Laboratory Training Network, New Orleans, LA - April, 2000.

Indoor Air Quality: Microscopy of Dust, Spores and Pollen, John Shane-McCrone Research Institute, Chicago, IL – June, 2001.

Evacuation Coordination: Train-the-Trainer - Midwest Center for Occupational Health and Safety, Minneapolis, MN – March, 2002.

Professional Development Course – AIHA-UMS 2003 Topic covered include analysis of mold samples, HVAC cleaning standards, general safety topics. St. Paul, MN– November, 2003.

Preparedness in the workplace training and research activities – U of MN, Minneapolis, MN - February 17, 2005

Mold in the Build Environment, Satellite Web Broadcast – ASHRAE – April, 2005.

2003 IBC Hazardous Materials, International Code Council, Maplewood, MN - November 16, 2005.

Emergency management courses ICS 1, 3, 5, 7, 100, 200, 700, 800A-FEMA online course – Jan – Feb, 2007.

Intermediate ICS 00300 Expanding incidents for first Responders. Minneapolis, MN – August 18-20, 2009.

IAQ/Mold 101 Webinar Benefits of Screening IAQ contaminants 1 hour webinar – Pure Air Control Services Inc. – January 12, 2010.

NORA Symposium - National Occupational Health Research Agenda – UM SPH - April 15, 2010

Control Strategies for Chemical and Biological Hazards – online training – U of MN, SPH – January 4, 2011

Best Management Practices for Animal Research Worker Safety -online training – U of MN, SPH – June 6, 2011

Maintenance Best Practices – Four hour hands on training seminar using Fluke Thermal Imaging – August 26, 2011

Ethics in the Practice of Industrial Hygiene, U of MN SPH

Minneapolis, MN – September 21, 2011.

AIHA UMS Section Annual PDC, U of MN SPH

Minneapolis, MN – November 17, 2011

Ergoexpo Educational Webinar from HP – National Ergonomics Conference and Exposition – January 11, 2012

NORA Symposium – Inspiring a Respectful Workplace, U of M SPH

Minneapolis, MN – May 1, 2012

Fungal Data interpretation 2 hour Webinar - EmLab P&K – June 6, 2012.

AIHA UMS professional Development Conference, U of MN SPH

Minneapolis, MN – November 15, 2012.

Office of the Future: Incorporating Touch and Sit/Stand into Workstation Design – ErgoExpo Educational Webinar – January 13, 2013

Proven Ergonomics and Safety Team Building Strategies – National Ergonomics Conference and Exposition – February 13, 2013.

Catching Your Breath: Work Related Asthma in MN – Kathy – AIHA-UMS – February 21, 2013

Mold Sampling, Health Effects, and Data Interpretation 3 hour Webinar – EmLab P&K – February 7, 2013.

Control Strategies for Physical Hazards – online training – U of MN, SPH – April 10, 2013

Recognition and Assessment: Chemical and Biological Hazards – online training – U of MN, SPH – April 10, 2013

Unsafe Acts/Unsafe Conditions – online training – U of MN, SPH – April 10, 2013

NORA symposium: Gun Violence Prevention with Implications for Occupational Health – May 2, 2013

IS-00015.b Special Events Contingency Planning for Public Safety Agencies – June, 2013

Noise and Application of EARfit training – Dan Westrum – UMS AIHA
September 19, 2013.

Campus Laboratory Hazards and Tragedies - Unique Challenges and
Solutions – AIHA 2 hour Webinar. November 8, 2013.

AIHA UMS professional Development Conference, U of MN SPH
Minneapolis, MN – November 21, 2013.

Fungal Aerosol Variability and Data Interpretation 1 hour Webinar –
EmLab P&K – December 18, 2013.

Chemical Hazard Awareness for Public Health Workers– online training –
U of MN, SPH – February 8, 2014.

Professional
memberships and
Certifications

Industrial Hygienist in Training 1992 – 1994.

Certified Industrial Hygienist 1994 to present

American Industrial Hygiene Association, 1992 to present

Minnesota Indoor Air Association – Board Member 2005 to 2007

Secretary Elect Local UMS AIHA chapter (2013)

Secretary Local UMS AIHA chapter (2014)

Community Service

Adult and Sunday School teacher, Faith UMC St. Anthony MN -1990 to
2011.

Volunteer, Wilshire Park Elementary St. Anthony MN - 2007 to 2013.

Coach, St. Anthony Sports Boosters, St. Anthony, MN 2008 to 2010.

Destination Imagination Team manager, Wilshire Park Elementary 2011 -
2012

Parade coordinator St. Anthony Villagefest 2013- 2015

Web sites and blogs

DEHS departmental blog
<http://dehsumn.blogspot.com/>

DEHS ergonomics blog
<http://dehsumnergo.blogspot.com/>

U of MN WET force blog
<http://umnwetforce.blogspot.com/>

NG Carlson Analytical Inc

<http://sites.google.com/site/ngcarlsonanalyticalinc/>

Sustainable Mycology

<http://sustainablemycology.blogspot.com/>

Ergonomics Today

<http://ergonomicstoday.blogspot.com/>

Books for your Mind

<http://booksforyourmind.blogspot.com/>

Deposition/Trial Testimony

2005 – Deposition – Taken in Minneapolis for South Dakota case – Plaintiff expert witness

STEVE AND ALLISON GARRY, Plaintiffs, vs. HOMELAND CENTRAL INSURANCE COMPANY formerly known as HAWKEYE SECURITY INSURANCE COMPANY, Defendant.

July, 2007: Court testimony as plaintiff expert witness

Todd P. Johnson and Sherry Ann Johnson v Brenshell Homes Inc. and Dale Wilson

October, 2010: Court testimony as plaintiff expert witness

Curtis G. Marks, et al., Respondents, v. Erotas Building Corporation, defendant and third party plaintiff

August 7, 2015 Deposition as defendant expert witness

Ralph Simon vs. Select Comfort Retail Corp. defendant.